

# WESTERN INDUSTRY



\* West Coast knitting mills up production and quality of bathing suits with new yarn twisting method. For details see page 5.

**IN THIS ISSUE:** Finding the Break-Even Point; Teamplay Between Methods & Tooling; New System Cuts Layups in Army Motor Vehicles; Cooling Process for Shale; Western Industries Advance; Better Lighting Weeds Off-Grade Tomatoes; Pallets Are Magic Carpets for Modern Industry

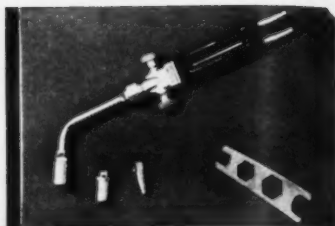
**Thirty-Five Cents**

**VOLUME XIII**

**NUMBER 6**

**June, 1948**

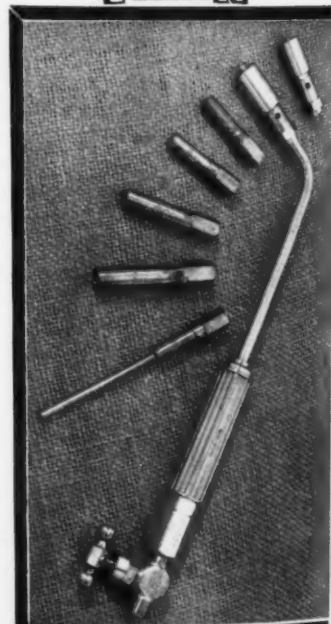
jeweler, dental laboratory technicians, hobbyists, and anyone interested in light brazing or soldering operations welcomes this new Model 3401, "four-in-one" torch, illustrated to the right. you can use this torch with any practical fuel gas such as acetylene, natural gas, city gas or liquefied petroleum gas in combination with compressed air or oxygen; and it produces an ideal flame for such operations.



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put this air-gas heating torch into your hand . . . feel it do its job swiftly and efficiently. watch it in windy, drafty places . . . it holds its flame. the new tip construction gives ideal flame protection with maximum heat. you may secure this outstanding heating torch in several useful sizes — for pre-heating, brazing, soldering or bending and straightening operations. it utilizes compressed air with either natural gas or one of the liquid petroleum gases, such as butane or propane.

the bunsen burner type torch (right). this victor bunsen burner type of torch, model N600, may be provided with tips using natural gas or one of the liquefied petroleum gases or acetylene — the needed air is siphoned into the torch — tips are made in several useful sizes including the radiator repair tips. this little torch is excellent for a range of lighter soldering and brazing operations.



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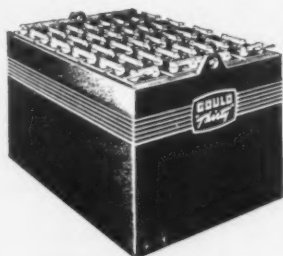
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# This Month in WESTERN INDUSTRY

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JUNE, 1948

NO. 6

## Editorial Page

Editorial Comment . . . . .	19
Mail Box . . . . .	21

The Western Outlook . . . News . . . Statistics . . . . .	25
---	----

Spotlight on the News . . . . .	33
---------------------------------	----

## Articles

Simple Methods For Finding the Break-Even Point . . . . .	35
Team Plays Between Methods and Tooling . . . . .	38
New System Cuts Layups in Army Motor Vehicles . . . . .	39
New Cooling Process Speeds Shale Production . . . . .	42
Western Industries Advance . . . . .	43
Production Techniques: . . . . .	46
Better Lighting Weeds Out Off-Grade Tomatoes . . . . .	
Materials Handling: . . . . .	48
Pallets Are Magic Carpets For Modern Industry . . . . .	

Washington News Letter . . . . .	50
----------------------------------	----

## Regional Reviews

Tehachapi to Tijuana . . . . .	58
Sierras to the Sea . . . . .	62
The Continental Divide . . . . .	66
The Pacific Northwest . . . . .	70
Wasatch Front . . . . .	74

## Departments

Westerners at Work . . . . .	54
Labor and the Industrial West . . . . .	78
The West on Its Way . . . . .	80
Trade Winds . . . . .	88
New Methods, Materials, Equipment . . . . .	92
Book Reviews . . . . .	94
Helpful Literature . . . . .	95

Advertisers' Index . . . . .	102
------------------------------	-----

## Front Cover

As leaders in the manufacture of bathing suits, the Pacific Coast captures another important industry. Increased production is gained by using cones instead of bobbins in twisting of yarn, as shown on a 200-Spindle-Two fold ring twister at Portland, Ore., plant of Jantzen. Operator is Arlene Frederickson.

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**Bulletin A-20** pictures and describes Delta Cut-Off Machines.

**Bulletin A-23** pictures and describes Delta Toolmaker\* Surface Grinder, Chip-Breaker Grinder, Tool and Cutter Grinder.

**Bulletin A-28** pictures and describes the Delta 14-inch Metal-Cutting Band Saw.

**Bulletin A-31** pictures and describes Delta Abrasive Finishing Machines (belt and disk types).

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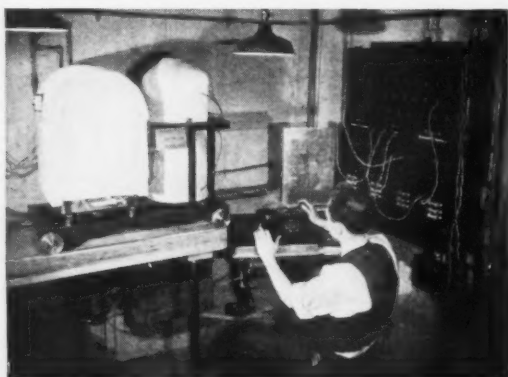
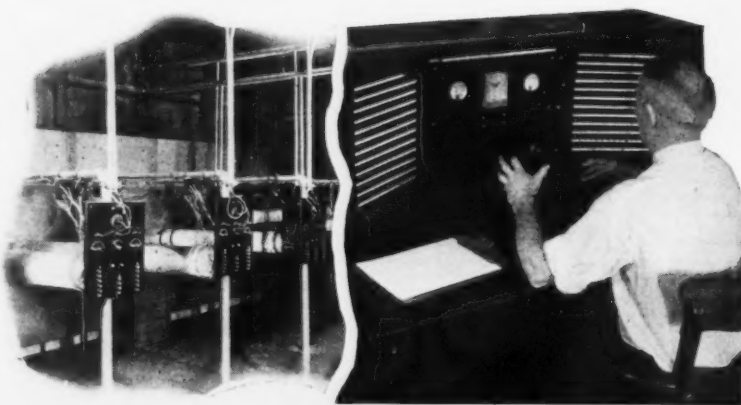
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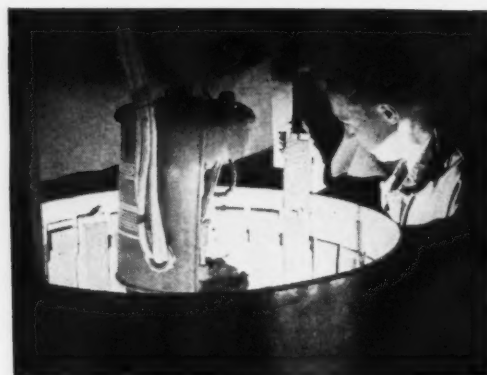
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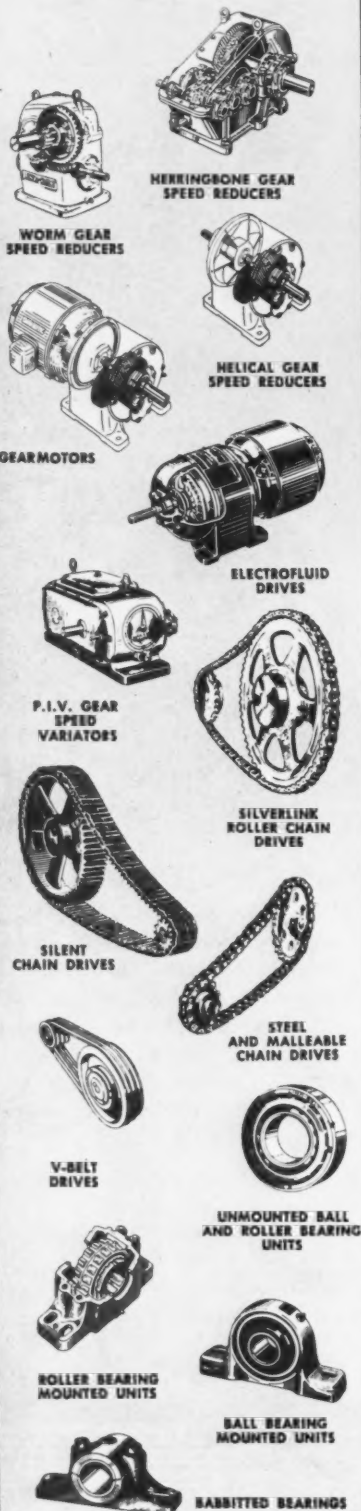
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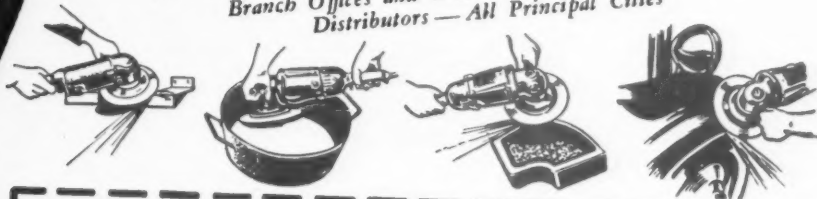
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June, 1948—WESTERN INDUSTRY



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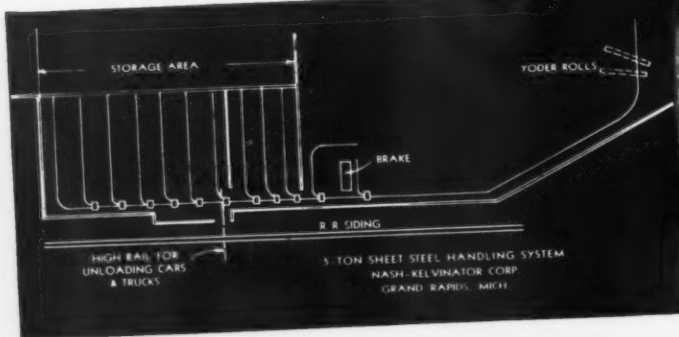
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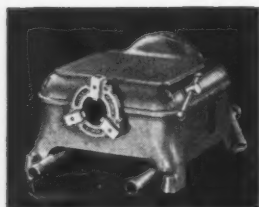
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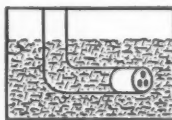
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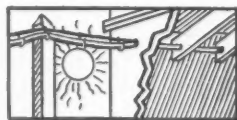
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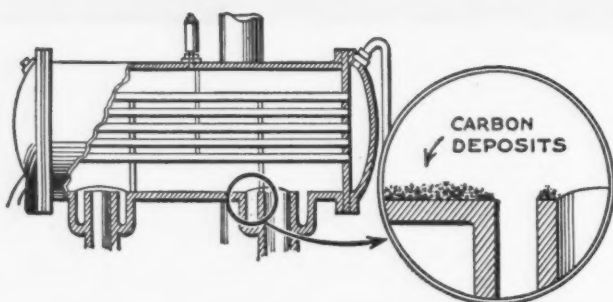
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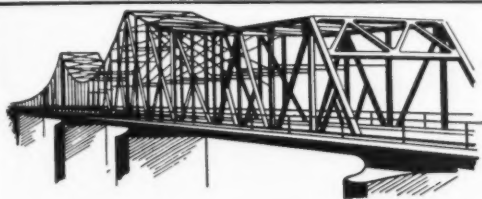


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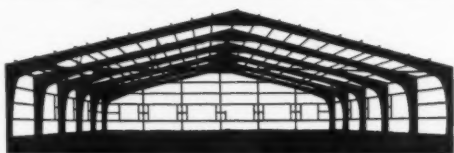
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## In Our Mail Box

### Bark Products Outlet

Editor, *Western Industry*:

In your April issue of *Western Industry* there appeared the story "New Bark Products Open Up Outlets for Wood Wastes" . . . a true statement. Yet, in the execution of the story, your writer seemed determined to discourage any industry from attempting to find uses for bark products because "it might be necessary to abandon completely the processes and products from bark . . ."

In the development of our free enterprise system, manufacturers risk huge sums to develop new products, methods and machines. Of course a market has to be developed. But for some reason this writer states the obvious in a way that is most derogatory. "Up to the present writing the plant has not been operated more than eight hours per day (not true, incidentally), and an increase to two-shift operation seems to depend more upon the sale of existing supplies than upon a shortage of unprocessed bark." So what! Then again, "In actual practice the adoption of these bark products for daily use by industry remains to be developed." And, again (speaking of the soil mulch TOPPER), "Ultimately, it is being sold as a consumer product for soil conditioning, and here a great deal of market development work is still to be done to overcome established competition of other products." (Of course, but not quite accurate, for the company is three weeks behind on carload orders.)

The article closes with "No attempt has been made here to list all the uses. . . . It should be apparent from the review of the chief uses that all are of somewhat limited extent and many are competitive with established products. Gradual development of the market may eventually lead to greatly increased demand for bark products, but it is difficult to foresee, etc., etc."

Contrary to the writer's written impression, there are many uses, requiring large quantities of Silvacon, that are definitely out of the experimental stages . . . uses that greatly improve end product quality or reduce costs, and that frequently achieve both of these highly desired objectives.

We are at a loss to understand why the writer took this approach in his story.

DON DAWSON  
MacWilkins, Cole and Weber  
Portland, Oregon.

Editor's Note: In the preparation of the article referred to by Mr. Dawson a single question was posed: Of what significance to the timber industry as a whole is the bark products development announced by Weyerhaeuser Timber Co.? After discussing the situation with many men in varying phases of the industry the answer to that question seemed quite clear, and we believe that Mr. Dawson will agree with us when we say that the Weyerhaeuser development is not one that can be adopted by any other important segment of the industry in the immediate future.

There was no intent to minimize the value of Weyerhaeuser's pioneering in the field, and we regret that the article should have been so interpreted. Certainly no industry can advance without the expenditure of money and man-hours in the laboratory, and full credit should be granted to Weyerhaeuser for taking the lead in this direction. The bark products born in

(Continued on page 21)

## EDITORIAL COMMENT

### The Gravy Train Rides on a Debt Road

VARIOUS firms in the West who made a good thing out of aircraft parts during the war, but have had rather uncertain going since then because they hardly knew what to make for whom, are now reported to be abandoning their search for markets. Instead, they are going back to aircraft parts, where the outlet is certain, competition easy and the credit risk nil. Happy days are here again for them, in view of the expected big Congressional appropriation for military aircraft.

All this gravy looks pretty luscious, and if it is a national necessity to spend so much money for aircraft someone has got to make aircraft parts. The situation may lift a number of struggling plants to a position of temporary security from which they can prepare for the future.

The unfortunate thing is that someone has to pay for all this gigantic expenditure, and the parts manufacturers do not escape their share of the burden. They pay in two ways. First, in higher income taxes and innumerable additions to the cost of doing business. Second, in loss of stamina, the weakening of their determination and ability to build businesses based on permanent markets, where customers are not handed them on a platter nor the bills paid by the government.

Cost of the 60-group aircraft program pending in Congress at this writing is estimated at \$14,451,000,000 in 1949, \$15,130,000,000 in 1950 and \$16,650,000,000 in 1951. On a basis of 130,000,000 national population, this figures out to a per capita cost of \$10.17 in 1949, \$10.65 in 1950 and \$11.70 in 1951 for every man, woman and child in the United States. Since the low income groups get off easy in taxes, the burden will be concentrated on corporations and higher income individuals.

Armament burdens and the havoc of wars are frequently cited as the main causes of Europe's grinding poverty. Colossal armament programs like the one pending in our own Congress may be a necessity, particularly if we have fallen heir to Great Britain's role as world policeman, but they do not create any prosperity. The gravy train rides on a debt road.

### With Apologies to Emerson

WE'VE long been waiting for that bright idea which would serve as the editorial equivalent of Emerson's famous better mouse trap which would make the world beat its way to our doors. But we are sure even Ralph Waldo himself would be surprised to have the trap beat its way to our door, instead of the long-expected world. Believe it or not, that is just exactly what happened. In our mail came a new type of rat trap, which uses water for bait instead of food, and is made of metal so it can be easily sterilized after use in order to destroy the scent of the first victim which would keep other rats away. It was just a sample, sent in hope of some publicity, but it warrants editorial mention.

Not a bad moral in itself: if you have a better mouse trap, rat trap or other device which people ought to buy, just beat the way to the world's doors, one by one. Much as the world needs a better mouse trap, it is extremely likely to pay more attention to something else which happens to be easier to get.

### Education Not Asleep

WESTERN COUNCIL wants to see that the economic and research studies of our Western colleges and universities do not overlap. Good idea, but they beat the Council to it on industrial relations.

How to get prompt delivery on LYON metal products

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LYON CONTRACT ITEM  
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| • Economy Locker Racks | • Welding Benches   | • Drawing Tables  | • Drawer Units     | • Bin Units  | • Parts Cases   | • Stools • Ironing Tables |



## MAIL BOX—(Continued from page 19)

the Weyerhaeuser laboratories will in the long run undoubtedly prove to be a major factor in advancing a solution to the problem of waste utilization in the timber industry.

### Inter-Industry Cooperation

Editor, *Western Industry*:

Regarding inter-industry cooperation in the West:

First of all, we agree that much can be done to unify the West through the promotion of a common understanding of Western problems, and we are interested in any program that will benefit Western industry.

Secondly, we agree with you that Western industry can benefit by mutual exchange of information on the questions of availability and use of raw materials, development of markets, adjustments of freight rates, exploration and protection of natural resources.

It has been our own experience as a manufacturer of large aircraft that we have always received a high degree of cooperation from other Western industries with whom we have had business relations.

Speaking for ourselves, we do not hold any annual conventions, but because our industry is really a combination of several businesses, we exchange opinions and information on a functional basis. For example, through membership and participation in Engineering and Aeronautical societies, Cost Accounting, Purchasing, and Traffic associations, and perhaps most important of all, through the Aircraft Industries Association and its various committees.

Related industries with which liaison is particularly important to us are the suppliers of aluminum, engines and equipment, and electric power. Transportation, particularly rail transportation, is also of vital importance to us.

With respect to the question of the best medium for accomplishing this program and coordinating the problems, it is our thinking that it would require sponsorship by a regional organization whose membership covered the entire Pacific Coast. Perhaps there are mechanics within the various Chambers of Commerce of the National Association of Manufacturers that could be used to accomplish this purpose. Working individually and without a central coordinating plan it would be extremely difficult for the various industries to organize and administer such a program. For this reason we believe a regional group would be the proper medium to implement this program.

NORMAN ALLEN  
Assistant to the President  
Boeing Airplane Company  
Seattle, Washington.

### Objective Through Education

Editor, *Western Industry*:

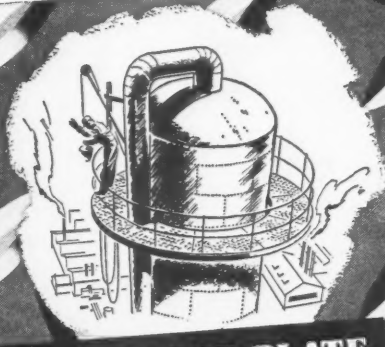
Your proposal for inter-industry cooperation and suggestions that the various industries arrange for inter-change of ideas through their conventions is interesting and constructive. However, it would seem to me that the objective could be accomplished only through education, as there is no common meeting ground where the various industries could discuss the possibility of developing programs which would acquaint each group with the other's facilities and problems.

The Western Oil and Gas Association does not have a general convention where subjects of broad interests are discussed, but the petroleum industry does have an important annual meeting, and at that time representatives of other industries are heard both in general sessions and in the various divisions of the industry. We have found it constructive and helpful.

RALPH B. LLOYD, President  
Western Oil and Gas Association  
Los Angeles, California.

(Continued on page 23)

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### Valuable Suggestion

Editor, Western Industry:

I have read with considerable interest your editorial on Western industry cooperation.

I feel that you have made a very valuable suggestion to Western industry. I believe it was Will Rogers who once said, "I never knew a man I didn't like," and it occurs to us that the whole burden of his remark is contained in the word "knew."

Too many times I believe we can become discouraged or bored with our various occupations simply because we do not have a sufficiently wide grasp, not only of the development of the West, but even of our own industry. Too many production men have too little grasp of sales and management problems, and too many sales engineers have too little understanding of production problems. The same thing carries through into our inter-industry relations.

In our own industry it might be quite easy to get just a little bit bored with the day to day production of coal a "ton at a time" so to speak, but it would be extremely difficult to lose an interest in the growth of the West, and the Western movement of peoples and industries which is marking the beginning of a new era in our country's history.

The wider understanding of the problems and prospects involved in this movement which can be promoted, not only among leaders but among workers in Western industry, will react to the benefit of all.

I am forwarding your idea for an exchange of speakers to the program committee of the Rocky Mountain Coal Mining Institute with the suggestion that if our program is not yet completed for this year we try to engage a representative of some related industry for our summer meeting.

I think it's a good idea to know what the other fellow is doing; maybe we can help him, and maybe he can help us.

Rocky Mountain Coal Mining Institute  
RONALD C. OLIVER, President  
(General Superintendent,  
The Oliver Coal Company,  
Somerset, Colorado).

### From Northwest Cannery

Editor, Western Industry:

Thanks for your letter of April 2.

We think your point in your April editorial regarding inter-industry cooperation is well taken, and I think I can speak for the Northwest Cannery Association in saying that we would welcome participation in such a program.

E. J. WATSON  
Pictsweet Foods, Inc.  
Mount Vernon, Washington.

### Stanford Research

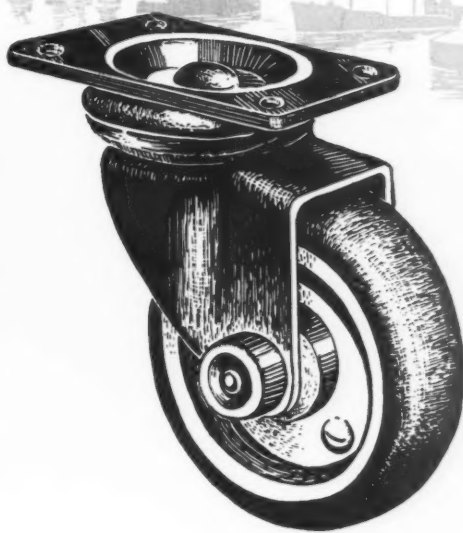
Editor, Western Industry:

The Stanford Research Institute is apparently planned to be very useful for the food industries. We have not, as yet, seen or had any experience with the testing of foods via that Stanford Research Institute, but undoubtedly frozen foods will come under their operations in the near future. As far as consumer testing of frozen foods, there is so much yet to be done in the plant and maintaining of uniformity and packing to a narrow grade limitation, that consumer testing is still quite far away.

We feel, however, that the Stanford Research Institute is a very desirable thing and we expect to use same, although we are not in a position to do so at this time.

JAMES R. AGEN, President  
Cascade Frozen Foods, Inc.  
Seattle, Washington.

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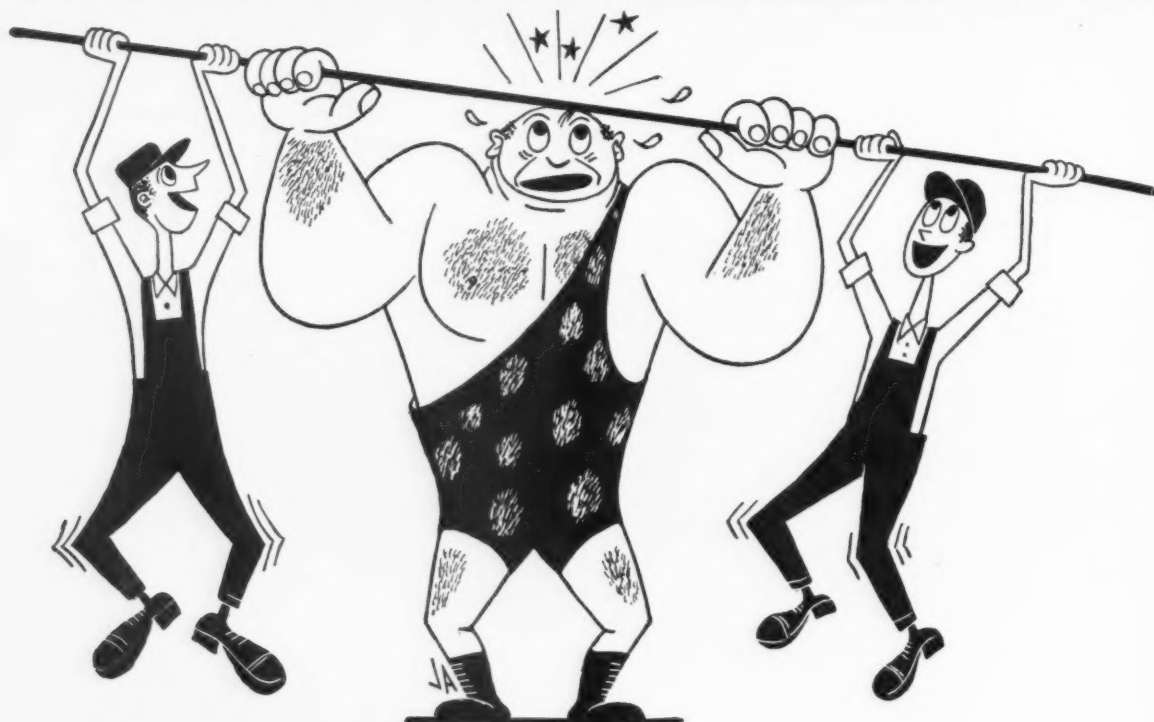
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# UNITED STATES STEEL



# THE WESTERN OUTLOOK...News...Statistics...

1

**Skilled labor shortage in S. F. Bay Area; Serious situation on Coast expected soon when increased aircraft production starts; Pacific Coast temporarily out of power shortage danger; Oil scarcity necessitates conservation of gasoline by airlines; Geneva cuts steel prices to level of eastern bases; Lumbermen warned buyers market may develop soon.**

## Employment Picture

THERE is a definite skilled labor shortage in the San Francisco Bay Area, and a drastic shortage on the Coast is expected within a year when aircraft swings into production, according to information received from the Department of Labor, United States Employment Service, Region 12, which covers California, Washington and Oregon.

At the present time San Francisco Bay Area labor shortages, which generally reflect conditions throughout the Pacific Coast states, are for stenographers, typists, tile setters (construction), auto body and fender repair men, and aircraft mechanics fully qualified with current valid aircraft engineer licenses.

Albert J. Miller, labor market analyst, and Wendell Gray, field superintendent of the Twelfth Region, say that the department is anticipating a definite shortage of skilled labor within a year, as a result of the many new aircraft contracts awarded. Engineering and tooling are in process now, and the firms will be ready to employ workers as soon as the plants have tooled up. No direct importation of labor has been requested in the Pacific Coast states, as has been done in New York, where 100 tailors were imported to relieve shortage of skilled workers in the clothing industry.

Indicative of labor shortage is the display advertisement placed by a stationery supply house in a Los Angeles newspaper, for an experienced stock-boy!

The construction business is suffering most from lack of skilled workers, and the

local office of USES cannot begin to meet the demands.

In the overall labor picture employment in non-agricultural activities for the Pacific Coast states shows a decline of about 80,000 since mid-December. About 53,000 is accounted for by normal seasonal drops in trade and service employment with smaller drops in manufacturing and other industries. In spite of this seasonal low, employment in non-agricultural industries as of March is estimated to be nearly 120,000 over the same period of 1947. Of this increase nearly 24,000 has occurred in manufacturing and over 96,000 in other types of employment. Washington and California show substantial gains in employment in manufacturing. In Oregon there has been considerable shifting in manufacturing employment with increases in the lumber and paper products and slight drops in other manufacturing activities, and little overall change. Over half of the increases in Washington state is accounted for in the aircraft industry.

The increase in aircraft production in Washington, which has been relatively heavy over the past year, may well continue. Expansion in the Los Angeles aircraft plants will probably be slower if the early stages of the program consist largely of the rebuilding of existing craft, and further because of the time required to start production of new designs.

Cutbacks in shipbuilding and repair have decreased employment in the San

Francisco Bay Area by over 1500 from February to March. The proposed preparedness program may well reverse this trend.

Non-agricultural employment in Montana was 2,100 lower in February than it was in January but was still 2,500 higher than it was a year ago and represented the highest volume of employment ever recorded in Montana in February, according to Barclay Craighead, chairman of the Montana Unemployment Compensation Commission.

New Mexico employment in March in six selected industries, not including construction, was 200 less than in February, 1948, but was 3,600 more than in March, 1947. The decrease from February was due to the unusually severe weather in March. The cold and snow caused employment in the lumbering industry to reverse its normal trend for the month.

Rigorous weather and work stoppage in the coal mines dominated Utah's labor market during March.

Agriculture, construction and timbering were hampered by stormy weather while manufacturing and railroads curtailed activities for lack of coal.

## Commerce and Banking

First quarter carloadings in Pacific Northwest about 6 per cent below 1947. Fruit and coal only categories to show increases. Twelfth Federal Reserve Bank district demand deposits below earlier months, but time deposits continue upward. Pacific Coast wholesalers first two months of 1948 up 4 per cent from last year, Mountain region 7 per cent.

## MANUFACTURING EMPLOYMENT

Estimated Number of Employees in Non-Agricultural Establishments—Source: U. S. Bureau of Labor Statistics

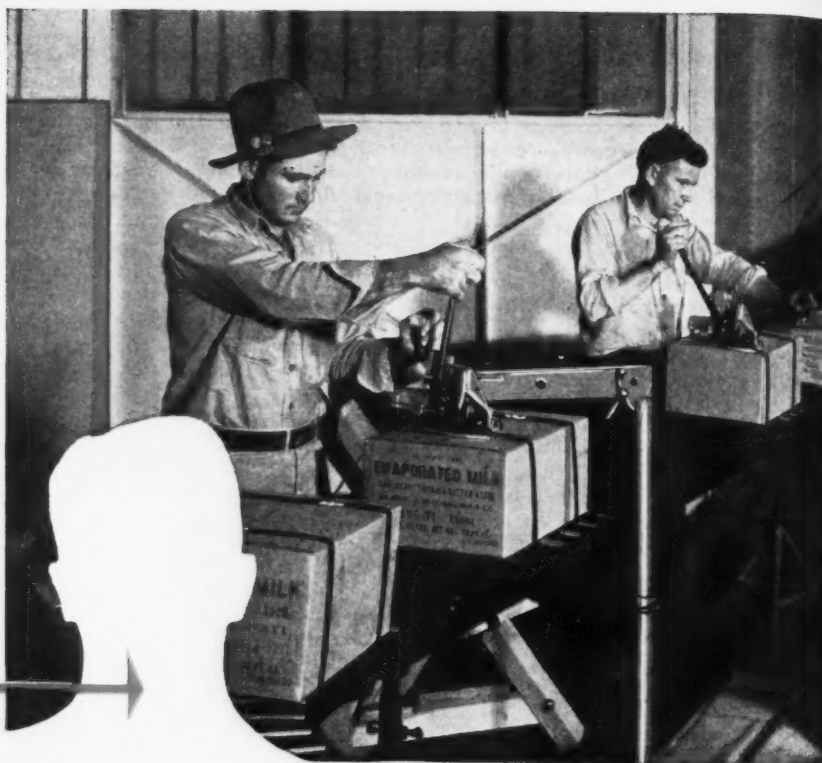
	MONTANA		IDAHO		WYOMING		COLORADO		NEW MEXICO		ARIZONA		UTAH		NEVADA		TOTAL MTN.	
	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947
October .....	18,000	19,100	.....	.....	.....	.....	.....	.....	.....	.....	12,700	12,600	.....	29,155	3,400	3,700	.....	.....
November .....	18,000	18,600	.....	.....	.....	.....	.....	.....	.....	.....	12,700	13,000	27,830	26,874	3,500	3,700	.....	.....
December .....	17,900	18,500	.....	.....	.....	.....	.....	.....	.....	.....	13,900	12,900	27,710	26,462	3,500	3,600	.....	.....
	1947	1948									1947	1948	1947	1948				
January .....	16,300	17,700	.....	.....	.....	.....	.....	.....	8,200	13,300	12,900	22,600	25,000	3,600	3,300	.....	.....	.....
February .....	16,400	17,300	.....	.....	.....	.....	.....	.....	8,500	8,700	13,300	14,700	22,380	23,820	3,500	3,300	.....	.....
March .....			.....	.....	.....	.....	.....	.....	9,000	8,300	14,100	15,100	23,050	23,700	3,200	3,300	.....	.....

## INSURED UNEMPLOYMENT

(Under all programs: figures in thousands. From Social Security Board)

Week ending	Ariz.	Colo.	Idaho	Mont.	Nev.	N. Mex.	Utah	Wyo.	Total Mtn.	Calif.	Ore.	Wash.	Total Pacific
Oct. 4	4.3	2.5	.7	1.1	1.3	1.7	2.3	.2	14.1	138.3	8.4	21.3	168.0
Oct. 11	4.1	2.5	1.3	1.4	1.5	2.0	3.6	.3	16.7	134.1	14.7	24.6	173.4
Oct. 18	4.7	4.2	3.9	2.9	1.8	3.2	4.3	.6	25.6	176.4	19.9	36.3	232.6
Oct. 25	5.1	6.5	6.6	4.7	2.0	5.0	6.3	1.1	37.3	204.2	27.2	45.7	277.1
Nov. 1	6.3	8.8	8.0	7.1	2.5	5.8	7.9	2.0	48.4	195.2	23.1	47.7	266.0
Nov. 8	7.1	10.3	8.1	7.9	2.5	6.0	7.5	2.0	51.4	228.9	24.0	47.1	300.0

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# THE WESTERN OUTLOOK...News...Statistics...

2

## Electric Energy

The peak period in electric demand is yet to come on the Pacific Coast, and the season will probably continue tight, although temporarily the area is out of danger of a serious shortage, except for Arizona, where 30 to 40 per cent curtailment continues, pumping loads are increasingly harder to meet and the reservoirs are alarmingly low. Federal Power Commission is making further studies of the situation, and in June a safe forecast of the entire season may be possible. By next year additional steam and hydro capacity will be available, and even with another dry winter the situation should be improved.

Southern California has a slight surplus, as a result of higher water level in Hoover Dam and new steam capacity completed by Southern California Edison. Arizona is getting some of the surplus, and 200,000 kilowatts are going to the Pacific Gas & Electric system in northern California. In the latter area a 20 per cent curtailment imposed in March because of drought conditions has been abolished altogether, as the result of unusually heavy late rains which have

built up the levels in storage reservoirs. With Shasta Dam spilling over and PG&E getting 80,000 kilowatts from its new Kern steam station near Bakersfield, business has been able to resume its former activity. Daylight saving imposed as a conservation measure will not, however, do much good in meeting the summer peak, which comes in the morning.

Although most of the aluminum plants in the Pacific Northwest are running, they are not out of the woods, because their contracts call for a maximum allotment of power for the year, which they can take at any time they choose. Some of them are riding along in the hope that the season will turn out favorably, but if power runs short they will have to shut down later on. Proposals to bring Bonneville power to California are regarded lightly by Federal Power Commission engineers, who say that interconnections are lacking and substantial lines would be required all the way from Bonneville to San Francisco Bay.

## Fuels

Oil shortage continues to tighten. U. S. airlines have been warned by the American Petro-

leum Institute to conserve gasoline lest they run short — no news to the airlines, who have been unable lately to get any more fuel than already contracted for. Secretary of Interior Krug has asked states, municipalities, and transportation companies to put off replacing street cars with buses until more oil is assured.

In early April, new production records were being set by the nation's oil wells, with the average daily crude oil output reaching 5,338,700 barrels, as against 4,891,600 a year ago. API estimates that record amounts of petroleum will continue to be available during the coming year, but that the race to meet the enormous increase in consumption will be closer. Supply is expected to be up 8 per cent over the past year's rate.

Gulf Oil's executive vice-president forecasts U. S. imports of more than 1,000,000 barrels daily by 1955, barring unexpectedly huge discoveries. South America would supply half or less of the imports. He discounted any major contribution from synthetic plants because of the tremendous costs, although Gulf and Union Oil both hold large areas of oil shale deposits.

Like other industries, petroleum production will feel keenly the damage done by the coal strike. It has been estimated that for each 10 days the steel mills are shut down, 1,000 wells cannot be drilled — and next year's crude oil supply will be 1,000,000 gallons a day less than if the mills had remained in production.

Nevada's first oil strike is reported at Good Springs, 40 miles south of Las Vegas. An independent drilling company claims to be producing 10 to 50 barrels daily from a well 35 feet deep.

Intermountain coal production was down sharply in April because of the strike. Utah mines were operating normally by the end of the month but production for the 30-day period was only about 20 per cent of normal. In Wyoming and Colorado, where the strike was not so long, the production loss was only 25 to 30 per cent.

## ELECTRIC ENERGY

(Production for Public Use—In thousands of kilowatt hours. Source: Federal Power Commission)

	Mountain		Pacific Northwest		California		Total Pacific	
	1946	1947	1946	1947	1946	1947	1946	1947
September	924,999	1,081,085	1,109,086	1,325,425	1,547,003	1,695,630	2,656,089	3,021,055
October	992,528	1,059,691	1,251,343	1,422,487	1,523,254	1,654,464	2,774,597	3,076,951
November	937,678	1,064,947	1,302,623	1,484,350	1,443,167	1,531,154	2,745,790	3,015,504
December	1,002,170	1,191,939	1,413,478	1,606,168	1,490,316	1,620,287	2,903,794	3,226,455
January	1,061,564	1,228,508	1,477,873	1,635,440	1,466,716	1,605,642	2,944,589	3,241,082
February	962,756	1,168,514	1,328,994	1,539,841	1,301,334	1,514,611	2,630,328	3,054,452

## WHOLESALESALES

In thousands of dollars. Percentage changes are from corresponding month of preceding year. From Bureau of the Census.

### MOUNTAIN

	Automotive Supplies	Change	Electrical Goods	Change	Furn. and house furn.	Change	Groc. and foods exc. farm prod.	Change	General Hardware	Change
Sept.	396	+7	3,552	+75	...	...	4,337	+16	1,695	+7
Oct.	823	+5	4,104	+58	397	-18	5,227	+9	2,350	-33
Nov.	654	+24	3,924	+51	...	...	3,906	-1	2,015	+16
Dec.	635	+3	5,368	+27	...	...	3,647	-7	1,513	-3
Jan.	476	0	2,712*	+46	406	+9	1,442	...	...	...
Feb.	676	-1	2,808	+28	...	...	1,568	...	...	...

### PACIFIC

	Automotive Supplies	Change	Electrical Goods	Change	Furn. and house furn.	Change	Groc. and foods exc. farm prod.	Change	General Hardware	Change	Industrial Supplies	Change	Lumber & bldg. mat.	Change	Mch. equip. and supplies excl. elec.	Change	Metals	Change
Sept.	3,211	-4	14,718	+40	3,545	+37	13,729	+19	5,475	+11	520	-9	1,587	+63	431	+9	799	-4
Oct.	3,245	-11	18,232	+39	2,126	+1	11,574	+6	8,915	+5	603	+3	1,696	+55	791	-10	818	+5
Nov.	1,790	-5	13,345	+30	329	+34	13,838	-3	7,260	+14	466	-26	1,652	+42	561	-34	694	+13
Dec.	2,560	-13	21,380	+37	1,581	+5	13,302	-5	7,480	-2	615	-12	1,444	+36	627	-32	670	+7
Jan.	1,719	-18	10,858*	+31	1,634	+9	3,475	...	6,131	+6	660	-17	1,732	+30	521	-13	727	+5
Feb.	2,461	-19	11,542	+22	341	+20	3,289	...	7,277	-2	...	...	1,712	+48	774	-22	751	+17

\*Full-line wholesalers.

## INDEX OF DEPARTMENT STORE SALES

Index numbers, 1935-39 daily average=100 with seasonal adjustment. Compiled by Federal Reserve Bank.

	Total 12th	Southern California	Northern California	Portland	Western Washington	Eastern Washington and northern Idaho	Utah and southern Idaho	Phoenix
	1946	1947	1946	1947	1946	1947	1946	1947
September	313	321	327	339	285	289	296	315
October	319	324	349	349	284	286	288	301
November	320	340	355	371	287	305	287	299
December	321	352	343	388	287	318	304	345
January	1947	1946	1947	1948	1947	1948	1947	1948
February	314	340	338	373	275	291	301	353
March	311	319	341	365	267	282	308	301

## FREIGHT

Cars of revenue freight, railroad carriers in 11 Western states.

(Compiled from Assn. of Am. R.R. weekly reports)

	1946	1947	1946	1947
September	402,592	825,668	394,409	404,771
October	786,228	761,972	398,110	382,413
November	662,225	699,897	309,743	340,673
December	526,827	519,397	289,373	281,887
January	480,719	472,567	250,315	250,104
February	509,715	463,924	288,172	271,370

\*9-wk period. †incl. 4 weeks of following January.

## BANK LOANS

Industrial, commercial and agricultural (In millions of dollars)

From weekly reporting member banks of Fed. Res. System in 7 western cities: L.A., S.F., Portland, Seattle, Tacoma, Spokane, and Salt Lake.

	1947	1948
September	1,899	1,899
October	1,943	1,943
November	1,976	1,976
December	1,999	1,999
January	2,000	2,000
February	1,992	1,992
March	1,992	1,992
April	1,992	1,992

## BANK DEPOSITS

(In millions of dollars—adjusted)

Daily average month, all member banks in 12th Federal Res. Dist. Demand deposits excluding U. S. Gov't deposits, cash items in process of collection, and interbank deposits.

	1947	1948
September	8,905	8,905
October	8,978	8,978
November	9,114	9,114
December	9,095	9,095
January	8,836	8,836
February	8,685	8,685
March	8,685	8,685
April	8,685	8,685

55 60

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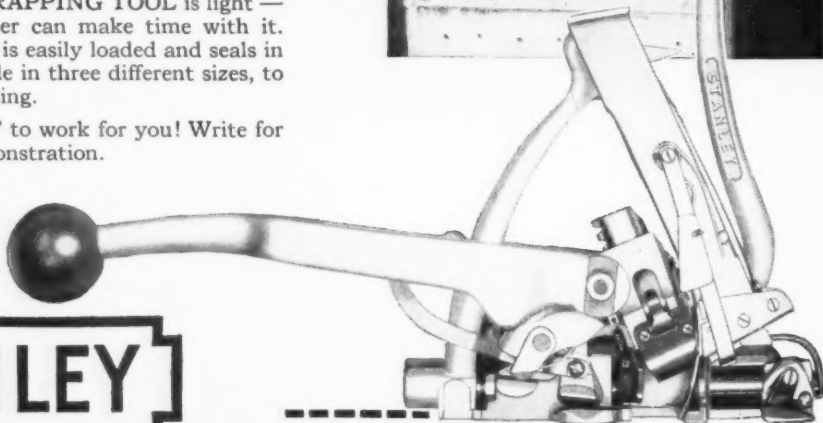
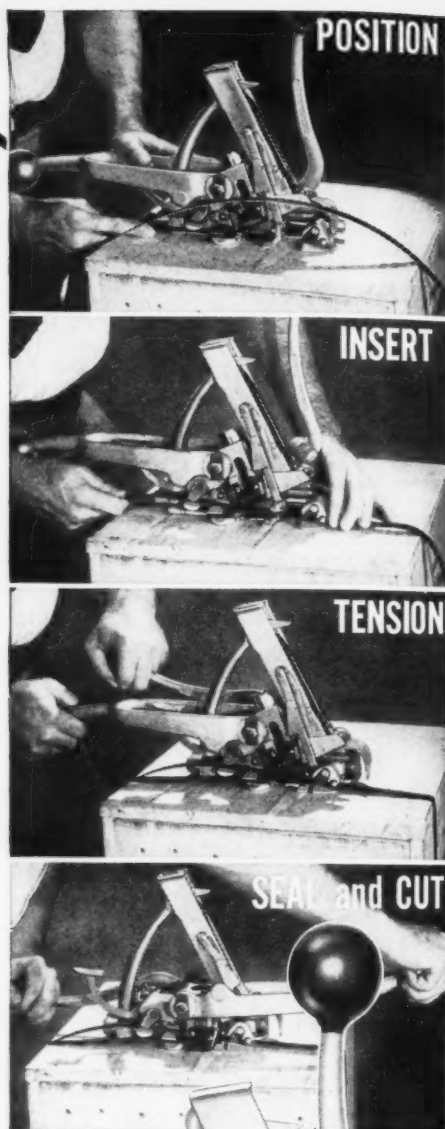
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# THE WESTERN OUTLOOK...News...Statistics...

3

## Chemicals

Production of fertilizer by Columbia Metals at the alumina plant in Salem, Ore., which has been running 200 tons a day for the last year, was closed down in March by a lack of anhydrous ammonia.

Sulphuric acid production facilities are being doubled at Anaconda, Mont., by the Anaconda Copper Mining Co. to permit expansion of triple superphosphate production. Fertilizer production declined in 1947 to 57,159 tons from 65,882 tons in 1946 due to equipment failure in the sulphuric acid plant.

Colorado and Washington produced 160,212 gallons of crude coal tar in 1947 from coal-gas plants.

## Steel

When U. S. Steel Corporation announced its nationwide price cut late in April, the long-promised reduction on steel from Geneva to bring its base down to the level of the eastern bases was announced. Plates and structurals were reduced \$4 a ton at Geneva, eliminating the previous \$3 a ton differential. At the time of going to press for this page, announcements were expected from other mills as to their policy. Average reductions per ton on other steel products announced to apply on products manufactured at the Columbia plants at Torrance and Pittsburg, California, were as follows: wire, \$2; wire fencing, \$3; barbed and twisted wire, \$2; bale ties, \$5; nails and staples, \$3; all alloy products other than semi-finished (excluding stainless), \$2; certain types of wire rope, reflecting in the aggregate \$5.

A slight decline in demand for reinforcing bars and heavy structurals seems to indicate that not as many big buildings and industrial plants are being started.

Although the scrap shortage on the Pacific Coast has been temporarily relieved, the long range situation is not at all promising. The last lot of LSTs, 23 in Suisun Bay and 21 in Puget Sound, for which bids were opened April 13 but had not been awarded at this writing, very nearly winds up the supply. Pacific Coast scrap needs would require 25,000 to 30,000 tons a month to be satisfied, which is the equivalent of eight to 10 liberty ships, but although there are about 300 of them in mothballs in Suisun Bay the government is not desirous of releasing them, in view of the unsettled international situation. The East Coast is receiving much offshore scrap from Europe, but scrap from the Philippines goes to Atlantic rather than Pacific Coast ports because of the higher scrap prices prevailing there.

## IRON AND STEEL

Western Area of the United States  
From American Iron and Steel Institute (in net tons)

	Pigiron Output	Percent of Capacity	Steel Output	Percent of Capacity
October	193,489	89.8	378,227	92.0
November	184,861	88.6	374,169	94.0
December	209,815	97.6	397,905	97.0
January	211,208	95.4	398,553	92.8
February	198,927	96.2	379,291	94.5
March	186,966	84.5	395,781	92.1

## Alloy Steel

	Output	Carbon Ingots, Hot Topped*
October	5,855	11,769
November	5,318	10,434
December	5,717	9,134
January	5,445	8,588
February	4,888	8,850
March	7,286	5,447

\* Included in total steel.

## COPPER

(Short tons. From U. S. Bureau of Mines)

	ARIZONA		UTAH		MONTANA		NEW MEXICO		NEVADA		TOTAL WEST'N STATES	
	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947
September	28,000	29,800	17,350	23,200	4,700	4,000	3,961	5,810	3,400	4,160	54,233	67,731
October	30,650	30,836	17,700	16,470	4,800	4,690	4,195	5,558	3,600	3,990	61,770	62,373
November	28,300	28,885	17,425	16,155	4,800	5,100	4,000	5,435	4,200	3,900	59,498	60,269
December	30,300	30,000	17,800	22,500	4,850	4,900	4,100	5,200	4,400	4,000	62,245	67,375
January	30,700	31,235	22,550	22,360	5,350	5,000	4,614	6,046	3,800	3,500	67,383	68,920
February	29,450	29,300	21,800	21,980	5,050	4,900	4,732	5,652	4,000	3,000	65,383	65,547

## BITUMINOUS COAL AND LIGNITE

(In thousands of tons. From Bureau of Mines)

	(Colo.-N. Mexico)		(Wyoming)		(Utah)		(Montana)		(Wash.-Alaska)	
	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947
July	464	298	615	345	548	394	293	182	114	71
August	573	490	736	530	586	504	275	255	122	104
September	679	628	745	650	590	513	343	274	124	116
October	828	640	903*	797	627	505	402	318	151	152
November	559	723	636*	778	442	581	308	309	115	145
December	...	885	...	827	...	715	...	330	...	164

\* Includes Idaho.

## PETROLEUM

(California, Oregon, Washington, Arizona, Nevada)  
(From Bureau of Mines)

	CRUDE PRODUCTION (Barrels, daily avg.)		GASOLINE		GAS OIL & DIESEL		HEAVY FUEL OIL		TOTAL DELIVERIES (Thousands of barrels daily)		ALL PRODUCTS	
	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947
September	914,747	914,747	318	370	77	113	339	386	880	1,080	880	1,080
October	921,463	921,463	320	356	100	139	326	375	870	1,010	870	1,010
November	929,552	929,552	293	317	128	138	363	380	896	978	896	978
December	927,197	927,197	308	349	146	173	416	441	993	1,091	993	1,091
January	930,953	930,953	313	323	177	162	420	368	1,035	990	1,035	990
February	933,622	933,622	320	313	142	204	425	394	1,012	1,053	1,012	1,053

## Non-ferrous Metals

A 2½-cent increase in the price of lead early in April is not expected to result in any material increase in the quantity of lead produced in the Coeur d'Alene region in northern Idaho. Producers will probably work lower grade ores, but a large increase in lead output could only result from the discovery of new lead-bearing ore bodies. Lead production in the Coeur d'Alenes has been on the decrease since 1917.

Stimulated by high prices and heavy demand, non-ferrous metal mines are edging slightly upward in production. The outlook is for a continued high level operation unless contract negotiations produce some work stoppages. Present contracts continue until June 30, and longer unless one of the parties asks for reopening. Actually new contracts will have to be negotiated all the way around. Some of the local unions have withdrawn from the IUMM&SW and will bargain through a new union. In other instances the companies have notified the international that existing contracts will be terminated as of June 30 because of failure of the international officers to sign non-communist affidavits.

Aluminum production in the Northwest is rapidly approaching war-time levels with all plants in full production with the exception of the Reynolds plant at Longview, Wash., and that plant may be in operation again by June. Delivery dates on aluminum sheet from the Trentwood mill are continuing to run three to four months behind, as they have for the past six to eight months.

## Canning and Packing

California's sardine catch for the 1947-48 season totaled 106,392 tons, compared with 227,716 tons the previous season, the Sardine Products Institute reports. Comparisons of the sardine products for the two seasons are as follows: oil, 1,723,798 gallons and 4,154,869 gallons; meal, 13,555 tons and 31,197 tons; canned sardines, 1,487,320 cases and 2,719,638 cases. In the 1947-48 season 85 per cent of the total catch was produced in the southern district and an additional 3,845 tons taken for pet food. Thirty-nine plants in the northern California district and 19 in the central district did not receive sardines.

For the 1948-49 season, 100,000 tons was allocated by the California Fish and Game Commission for reduction to fertilizer, chicken feed, etc., on a when, as and if basis. To help conserve the supply, the Sardine Industry Advisory Commission recommended this allocation, along with a five-day fishing week, a shorter season by one month and a limit on sardines of eight inches.

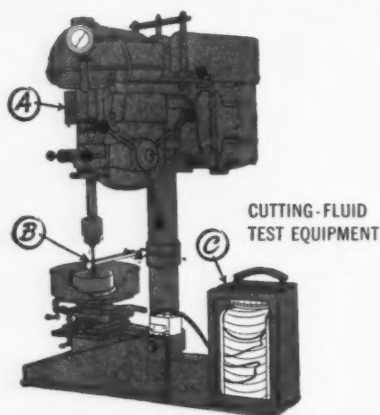
About 20 per cent of the remaining supply of California canned apricots was shipped in March, leaving the stocks on hand as of April 1 at 851,031 cases (No. 2½ can basis). Cling peach stocks were 2,241,815; free peaches, 384,533; fruit cocktail, 831,562; pears, 254,961; sweet cherries, 7,656. Round tomato shipments in March were 350,490 cases (actual cases), leaving 2,124,417 cases on hand. Tomato juice also was active, 500,678 cases being shipped, but there are still 3,554,131 cases left. Other stocks on hand in April were: Italian tomatoes, 75,332 cases; tomato catsup, 2,526,994 cases; tomato chili sauce, 309,628 cases; tomato and hot sauce, 1,805,540 cases.

Northwest Cannery Association stocks on hand reports as of April 1 were: freestone peaches, 305,885 cases; purple plums, 936,752 cases; pears, 1,004,054 cases; apricots, 25,787 cases; sweet cherries, 41,347 cases; apples, 215,381 cases; apple sauce, 45,813 cases.

The Jackson County (Medford and Rogue River Valley) horticultural planning committee has recommended against further planting of peaches, pears and apples because of depressed markets, and growers have been advised to consider removal of orchards producing low quality pears since the market for grades below fancy appears limited.



#### CASE 1046--EVALUATING CALOL CUTTING AND SOLUBLE OILS.

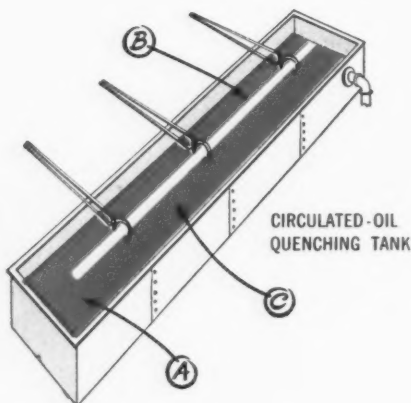


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## Building Materials

Continued slow rise in construction cost indices is reported by the American Appraisal Company, those in the first two months of 1948 being attributed to the 10 per cent freight rate increase, plus wage increases in some areas. The indices, which reflect the cost trend in each city, but not the relative trend between cities, are as follows:

	Decentral November	Dec. 1947	Jan. 1948	Feb. 1948
Durham	326	424	426	430
Seattle	351	479	494	496
San Francisco	323	433	435	436
Los Angeles	344	455	457	459

## Lumber

Lumbermen have been warned that a buyers' market may develop this year, the prediction being based on the fact that prices in lower grades have declined slightly during the first quarter of this year. The price declines, averaging about 5 per cent, are relatively insignificant in view of the increases amounting to about 400 per cent which have occurred since 1939, and opinion in the trade is not entirely in agreement as to the immediate development of a buyers' market. Weyerhaeuser Timber Co., which reduced some prices 10 per cent in January, has announced that the price reductions have been cancelled.

Box makers are definitely feeling a pinch between high timber prices and falling demand. Wartime box needs developed much competition in fiber boxes and additional producers of wood boxes. High costs of timber, labor, and transportation are pricing the wood box out of the packaging field in some instances. Shortage of nails and bolts due to the steel situation has decreased the demand for boxes in that field. Texas tomato crop was 40 per cent smaller this spring, and the California drought is definitely decreasing the need for fruit and vegetable boxes there. High food prices are adding to the problem by cutting the food consumption and reducing the demand for boxes.

Many major sawmills in the Northwest closed down the middle of April when the log supply was curtailed by a strike of CIO boom men and rafters. Western pine figures indicate a definite increase in orders and production over

## LUMBER

(In thousands of board feet)

From West Coast Lumbermen's Association (Douglas Fir, Sitka Spruce, Port Orford Cedar, West Coast Hemlock, Western Red Cedar):

Year through	1946	1947	1948
Production	1,770,866	1,890,785	2,046,528

From Western Pine Association figures (Idaho White Pine, Ponderosa, Sugar Pine and associated species):

Year through March	1947	1947
Production	578,376	659,430

## SOFT PLYWOOD

From Bureau of the Census  
(In thousands of square feet)

	1946	1947
September	120,270	146,985
October	149,600	170,325
November	129,635	144,637
December	121,816	149,999
January	140,058	159,395
February	129,622	156,285

## PULPWOOD

(Cords of 128 cu. ft., roughwood basis.  
Source: Bureau of Census)

	Receipts	Consumption
August	395,124	269,009
September	459,427	264,611
October	334,649	281,753
November	250,992	253,600
December	235,036	280,630
January	208,941	273,886

the same period last year, although shipments are slightly lower.

Douglas fir figures for the first 13 weeks of this year show production and shipments running ahead of last year, but orders lagging slightly. According to the West Coast Lumbermen's Association, production during the first 13 weeks of the year was 6 per cent above the five-year average 1942-47. Unfilled orders have decreased materially in the past month.

The Oregon-California Revested Lands Administration announced that the weighted average of stumpage prices on O&C timber sold in western Oregon last year was 32 per cent above the 1946 average, but comparable to the increase in lumber prices during the same period. Bid prices were 19 per cent above appraisals, representing a considerable drop under the previous year when bids were 27 per cent over appraisals. Volume of timber sold decreased about 20 per cent.

## Plywood

Competition among various Northwest softwood plywood mills to attain the highest eight-hour production record has resulted in the establishment of two new records this year. Highest record to date is that set on March 19, by the glue-spreader crew of the Peninsula Plywood Corp. at Port Angeles, Wash., turning out 175,040 square feet in a single shift. This broke the record of 153,600 square feet produced by a crew at the Umpqua Plywood Co. at Roseburg, Ore., in February.

## Flour

A big national wheat crop is in prospect, probably over 1,000,000,000 bushels, but not as large as 1947. Pacific Northwest wheat stocks have reached lowest point on record, 29 per cent below same time last year, and winter wheat crop is expected to break all records by going 25 per cent above last year. Meanwhile all buying is on a hand-to-mouth basis, with flour operations still in the doldrums.

## STRUCTURAL CLAY PRODUCTS

	UNGLAZED BRICK (In thousands of standard brick)	UNGLAZED STRUCTURAL TILE (short tons)	VITRIFIED CLAY SEWER PIPE (short tons)
Sept.	12,168	28,267	3,814
Oct.	*9,701	23,160	2,426
Nov.	*9,701	28,983	2,745
Dec.	*7,919	12,881	1,797
Jan.	*7,374	14,551	1,582
Feb.	*6,225	9,955	1,678

\*Includes Colorado.

## CEMENT

(In thousands of bbls.; from U. S. Bureau of Mines)

	California	Oregon - Wash.	Utah - Idaho
1946	1,668	1,949	495
1947	1,668	1,949	495
Aug.	704	643	370
Sept.	487	517	340
Oct.	624	581	367
Nov.	645	596	453
Dec.	1,947	1,949	1,947
Jan.	1,818	1,909	244

## HOUSEHOLD FURNITURE

Manufacturers' Shipments—11 Western States  
From Bureau of the Census  
(In thousands of dollars)

	Upholstered Furniture	Other Household Furniture	Total
3rd quarter, 1947	\$11,047	\$15,929	\$26,976
4th quarter, 1947	13,386	21,098	34,484

## WHEAT FLOUR

(In thousands of sacks; from Bureau of the Census)

	Ore.-Wash.	Montana	Utah	Colorado	California	Total
September	1,498	352	327	402	321	2,960
October	1,760	336	222	484	447	3,349
November	1,553	311	281	446	385	3,006
December	1,446	282	272	481	364	2,845
January	1,480	275	264	486	363	2,868
February	1,250	275	254	360	269	2,408

## Sugar

Stocks of refined cane sugar in Pacific Coast refineries are piling up and unless demand increases, operations may slow down. Sugar deliveries everywhere have been slow, and further quota reductions have been hoped for to stimulate demand.

Distribution of sugar in the eleven Western states in 1947 by cane refiners, beet processors and cane importers to the trade and to government purchasers is shown in the following USDA table, in 100-lb. bags, as follows:

	Cane	Beet	Offshore Imports	Total
California	6,595,113	3,772,090	94,090	10,451,293
Oregon	952,429	683,686	18,643	1,654,758
Washington	1,127,060	1,216,393	.....	2,343,653
Utah	67,266	681,051	.....	748,317
Idaho	73,918	377,859	.....	451,777
Colorado	101,202	892,961	.....	994,163
Montana	31,117	386,109	.....	417,226
Wyoming	16,465	146,763	.....	163,228
Nevada	57,962	16,639	.....	74,601
Arizona	260,308	66,396	.....	326,704
New Mexico	129,359	121,852	.....	251,211

## Apparel

Seasonal lay-offs in the garment industry have started earlier than usual, partly because of a poorer-than-expected Easter trade and some resultant cancellations of orders. Sports shirts production continues at full blast, however. In Los Angeles the effect of strikes for organizing purposes against a number of manufacturers has contributed to a general slowdown. Mass demonstrations apparently have been temporarily suspended during the slack season.

Materials are becoming a little more plentiful. Some fabrics are being offered at slight concessions. Consumer resistance to high prices continues strong. Though Western producers of staple lines find it hard to compete with mass-produced eastern clothing, specialty goods where style is paramount are being kept in demand by strong promotional efforts. With labor costs higher here than in New York, Western makers of bread-and-butter lines are unable to reach eastward for business, but must rely on quality and proximity to local markets to offset higher production costs.

## APPAREL

(In thousands of dollars)

	Total Women's, Misses' & Juniors	Los Angeles	San Francisco	Outerwear
April	7,118	1,721	1,731	1,731
May	4,505	1,183	1,383	1,383
June	4,188	1,383	1,383	1,383
July, August, September	23,245	6,899	6,899	6,899
Oct., Nov., Dec.	24,948	6,844	6,844	6,844

	Men's Overall (thousands of dozens) California	Men's Wool Work & Dress Trousers (thousands of units) California
June	27.4	95.1
July	16.7	87.2
August	22.1	110.6
September	26.1	102.2
October	29.2	128.3
November	24.7	100.1

## BEDDING PRODUCTS

Manufacturers' Shipments—11 Western States  
From Bureau of the Census  
(In thousands of dollars)

	Dual Purpose	Mat- tresses	Other Bedding Products*	Total
3rd quar., 1947	\$2,416	\$8,718	\$3,460	\$14,594
4th quar., 1947	4,737	7,699	3,631	16,067

\*Includes metal beds and cots, Hollywood beds and headboards, bed springs and box springs.

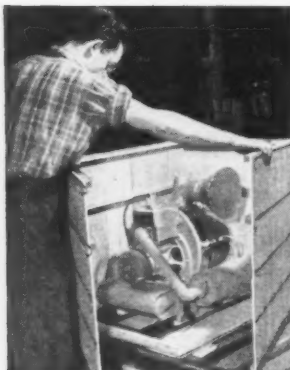




# Homelite Corporation saves \$8700 annually with **WIREBOUNDS**

As makers of hand-portable gasoline-driven generators, pumps and blowers, the Homelite Corporation of Port Chester, New York, required tight shipping containers for several different types and sizes of units. In an effort to reduce their high container costs, the company investigated, tested and adopted Wirebounds because these time-tested, low-cost, resilient containers combine the strength of steel with thinner wood. Result: Annual savings of approximately \$8,700.

The Wirebound box designed for Homelite is suitable for various types and sizes of units, provides the necessary protection from shipping hazards and has slashed container assembly operations 40%. Use the coupon below to learn what strong, resilient, lightweight Wirebounds can do for your shipping problems. Mail it today!



The sides of the Wirebound container are wrapped around a Homelite unit that has been securely fastened to the base. Packing time is reduced from 15 to 7 minutes.



Rock Fastener closures are provided for fast, easy assembly. Cleats add horizontal reinforcement. Tare weight is cut from 80 to 45 pounds with Wirebounds.

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### WIREBOUND BOX MFG. ASSN.

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☐ SEND COMPLETE LITERATURE

☐ SEND A SALES ENGINEER

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ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

PRODUCT \_\_\_\_\_



**Wirebound  
BOXES & CRATES**

Plants Located To Serve All Manufacturing Centers



# Spotlight

## on the NEWS

**WESTERN INDUSTRY**  
**FOR JUNE, 1948**

VOLUME XIII

NUMBER 6



A textile industry on the Pacific Coast may be sooner than we think. In fact, it is reliably reported that the drouth scared away for the time being some people who were looking over the ground in California. A large industrial water supply at economical rates is the prime prerequisite, and much effort is being devoted by the industrial community to solving this problem.

California has two assets of tremendous weight in favor of setting up textile manufacturing. First is long staple cotton highly suitable for broadcloths and poplins, permitting the development of a quality line, but requiring an investment of several million dollars; not large for the textile industry, but rather big for us out here. Second is the fact that California has become a style leader for sports and casuals, which can be made from worsted woven from lower grade cotton. Obviously there would be much advantage in the development of fibres and patterns in a mill (which could be quite small) that was close to the style-setting scene.



### **Splitting the Job**

Educational institutions on the Pacific Coast have done a good job of whacking up research studies in industrial relations so as to reduce duplication and overlapping to the minimum. Obviously this also gives institution freedom to do a more thorough job on each project, while at the same time it saves industry a lot of time and trouble in replying to questionnaires and submitting to interviews.

Oddly enough, one of the compelling reasons for this arrangement was to economize on library space, as files of books, pamphlets and reports grow at a rate that would make sustained yield advocates in the lumber industry green with envy.

The state universities are taking over most of the labor movement studies, with the University of California at Berkeley

(which may sometime be known as "UCB") handling arbitration, UCLA the amusement and services trades and Washington the lumber, plup and paper industries. Stanford and Caltech will handle management principles and practices. Stanford University draws the heavy manufacturing and transportation industries.



### **Saving All the Wheat**

Use of the entire wheat grain in milling flour now seems to be possible, as the result of an Englishman's discovery that has been perfected at the division of industrial research of Washington State College.

It involves only one operation, the key to which is the enormous velocity of the grinding wheel. The wheat is hurtled once around the wheel, and then blown into a gigantic fabric bag where the flour settles out of the air blast created by the mill.

The college announces that after passing just once through the mill, 100 pounds of clean wheat yield exactly 100 pounds of finely ground whole wheat flour, with no part of the wheat lost. It is thought possible that Washington's low-protein wheat may now be used for bread flour without importing high-protein flour from Midwest areas.

John Wright, who came to Pullman, Washington, a year ago to make his home, brought the idea with him from England. George E. Pease, WSC research engineer, directed the designing of the pilot mill.



### **Freezing in Motion**

Quick freezing may soon progress from the original method under which the packages remain stationary while in contact with the cold plates to a continuous flow system by which the containers move vertically through the chamber in continuous sliding contact with the freezing surfaces. The

manufacturers call it the first major innovation since the original plate freezer was devised.

Tests are being made at the Pictsweet Foods plant at Santa Clara, California, where runs of 1½ to two tons an hour have been handled on a basis of 50 to 90 packages a minute. One of the most important features is space saving — 6x26 feet floor space and 14 feet in height, taking 64 cartons in a vertical stack.



### **According to NICB**

National Industrial Conference Board comes up with some enlightening figures even if perhaps sketchy. They show New York as having 10.8% of all the industrial plants built since 1940, Pennsylvania 8.6%, California and Illinois tying at 7.6% and Ohio next with 6.9%. Washington had 2.0%, Oregon 1.7%, Arizona 0.5%, and Utah 0.2%. Data was compiled from 148 companies, 1,265 plants.



### **Not Decentralization**

Decentralization of industry is a misnomer, according to Leo E. Sievert, executive representative on the Pacific Coast of the Santa Fe. The word that should be used is expansion, he says, because there has not been a shifting of facilities from one coast to the other, but rather an addition of new facilities in the West without decreasing those in the east.

Increased freight rates have not caused this so-called decentralization, but the growth of the Western market, in his thesis, because they are merely part of a new level of prices and are relatively the same in the whole cost structure as 10 years ago, if not less. Freight rates are the last costs to go up, he asserts, because they are subject to judicial determination by the ICC and are imposed when the other factors have gone in and been forgotten.



## Steel Hard to Get?

### *Demand Still Exceeds Supply But . . .*

. . . this is a typical view of night loading operations at a Ryerson steel-service plant. The steels specified on several orders are on their way to a loading platform for delivery the following morning. Possibly none of these orders are completely filled—however, the fact remains, we are doing our very best to serve a large group of steel users.

Unfortunately, it often seems that the particular steel *you* want is never on hand, and it is true that we are always short of some kinds and sizes. But our stocks turn over fast. A size that is out today may be in tomorrow. And in spite of current conditions, we still believe the

over-all stocks at our thirteen plants are the nation's largest.

Carbon and alloy steels, hot rolled or cold finished, and stainless steel in practically every analysis and finish are in stock, ready for your call. So do not hesitate to get in touch with us—on any requirement. You'll find that every Ryerson steel man will do everything possible to help you get the steel you need, when you need it.

Joseph T. Ryerson & Son, Inc. Los Angeles Plant:  
Box 3817, Terminal Annex. San Francisco Plant:  
Box 188, Emeryville. Other Plants: Chicago,  
Milwaukee, Detroit, St. Louis, Cincinnati, Cleveland,  
Pittsburgh, Philadelphia, Buffalo, New York, Boston.

# RYERSON STEEL

## PICTURE OF THE MONTH



**THE INDUSTRIALIZED WEST . . .** Oil is where you find it. The Cut Bank field in Montana was considered unfavorable by most of the geologists who had worked in Montana prior to its discovery. This scene at the Carter Oil Company refinery at Cut Bank shows a tank gauger in the foreground measuring the contents of one of the storage tanks.

## Simple Methods for Finding The Break-Even Point

**W**HERE is the break-even point? With new and increasing costs resulting from the changing conditions of today causing the margin of profit to be more uncertain, it seems to be a difficult and complicated problem for all levels of management charged with the responsibility of making a profit.

In the annual reports where management stewardship and the business results for the year are disclosed, some companies report both sales and earnings at an all-time high, while others have broken all sales records, yet their earnings are lower. But in all the reports there is mention of management's worry regarding the future course of business.

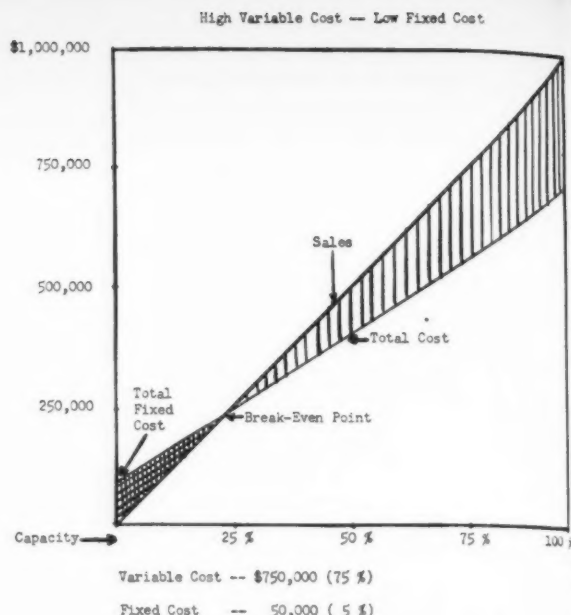
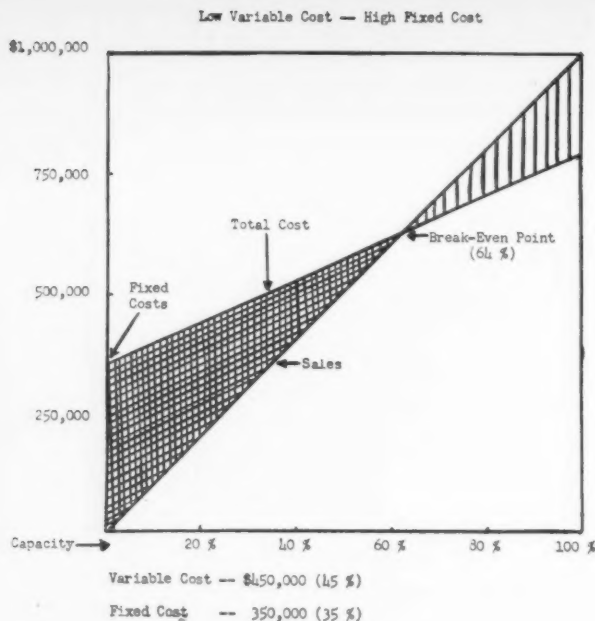
By **WILLIAM H. HOLM, C.P.A.**  
Past President, Portland Chapter  
National Association of Cost Accountants

Yet in spite of these uncertainties, the broad principles governing the break-even question can be presented in simple explanations which may be applied to complicated and varying individual problems.

Basically, the break-even formula is built around the understanding of fixed and variable costs and their relationship to sales. Once the break-even point is analyzed, then the procedure becomes a matter of cold facts and figures on one side and the responsibility of individuals on the other. The foreman and the supervisor are responsible for production; the

sales department for sales, and the cost accountant for cost information to measure the performance, while management is responsible for plotting the course of action. When there is complete cooperation of this team, the business profits rise.

Some of the problems which affect earnings, whether they be high or low, are: (1) cost of rehabilitating plants, (2) cost of putting new plants into operation, (3) cost of introducing new products, (4) inventory adjustments caused by a drying up of buying in certain lines, (5) plant shutdowns as a result of strikes and inventory adjustments, (6) the reduction of prices in certain lines of merchandise, (7) increases in the cost of wages, materials,



fuels, supplies, freight, (8) failure of greater efficiency resulting from expenditures for new buildings and equipment to reach the point of covering the increased cost.

Variable costs are those which follow sales directly, such as direct labor, materials, sales commissions, etc. Fixed costs are those which do not vary with the operation of the business, such as property taxes, insurance, depreciation, and rent. The type of cost known as fixed-variable costs, such as advertising, repairs, and certain selling and administrative expenses, are by common consent among cost accountants allocated as either fixed or variable costs.

During the past few years there have arisen new types of fixed costs which are adding a tremendous burden to business, such as paid vacations, pension plans, hospital and medical insurance, bookkeeping for payroll deductions, industrial and labor relations, increased property taxes, the increase in insurance cost, and the cost of public relations.

The formula for determining the break-down point is the fixed cost divided by the percentage of marginal income, or, to state the problem in another way, the amount of sales required to cover the variable cost and the fixed cost and arrive at a profit of zero.

A simple example of a break-even point calculation is given in the following table:

TABLE I		
	Total Operations	Operations at Break-Even Point
Sales	\$2,500,000 (100%)	\$1,666,667 (100%)
Variable Costs	1,750,000 (70%)	1,166,667 (70%)
Marginal Income	750,000 (30%)	500,000 (30%)
Fixed Costs	500,000 (20%)	500,000 (30%)
Profit	250,000 (10%)	None

Plant capacity is very important in the determination of the break-even point. What is meant by plant capacity?

Because the so-called 100 per cent ideal condition is actually an impossibility, the practical 100 per cent plant capacity should represent a consideration of growth and losses, actual and potential, and a representative performance of the business. In other words, it should be that point which is between the average and the best results over a number of representative periods.

The formula for determining the plant capacity which will produce the break-even point divided by 100 per cent capacity. The question as to how much can be spent for increased plant capacity, which in turn will produce increased fixed costs, should be determined before expenditures are made.

The effect of increased plant capacity upon the break-even point may be illustrated by the next table. It is the result of a planned analysis by the sales department as to markets, the production department as to plant ability, the purchasing department (which, incidentally, reports a rise in the cost of materials) and the personnel department (which reports a rise in the cost of labor).

	75% Capacity	100% Capacity
Sales	\$3,000,000 (100.0%)	\$4,000,000 (100.0%)
Variable Costs	2,250,000 (75.0%)	3,000,000 (75.0%)
Marg. Income	750,000 (25.0%)	1,000,000 (25.0%)
Fixed Costs	650,000 (21.7%)	650,000 (16.3%)
Profit	100,000 (3.3%)	350,000 (8.7%)
Break-Even Point	2,600,000	2,600,000
Cap. at Break-Even Point	65.0%	65.0%

The table indicates that when plant capacity is increased, the break-even point definitely increases. It proves the theory that it is necessary to plot the results of increased plant capacity before expending the funds for the construction of buildings and equipment and the extension of market areas. The break-even point increased

\$1,000,000 in Table II over the same point in Table I.

In the analysis of the total cost picture, we come to the fact that the relation of fixed cost to profit is the fundamental point to be considered. It is much better to have a high variable cost than a high fixed cost. Table III compares two companies with the same sales and the same profit — but with different fixed and variable costs.

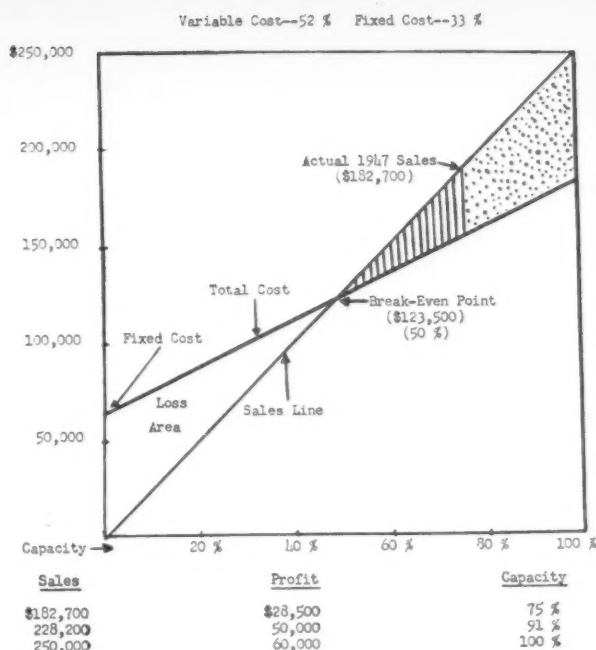
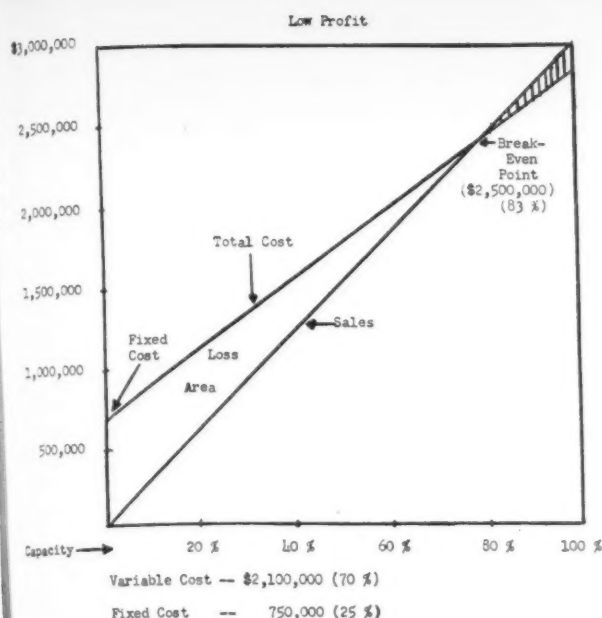
	Company A	Company B
Sales	\$1,000,000 (100%)	\$1,000,000 (100%)
Variables	750,000 (75%)	450,000 (45%)
Fixed	50,000 (5%)	350,000 (35%)
Profit	200,000 (20%)	200,000 (20%)
Break Even Point	200,000	636,000
% of Capacity	20%	63.6%

Many managers follow the theory that the only way to reduce cost is to increase sales because the volume will take care of any extra cost. But unless there is a reduction of the fixed cost and a control of that type of cost, and then a control of variable cost, it would be much better not to increase the sales, because greater profit can be secured with the same volume through cost reduction and a control of prices. Increased sales should not be the only answer to a profit increase. Increased plant-sales capacity can mean high-pressure policies, cutthroat competition, high advertising costs, price wars.

The effect of cost reduction on the two companies, indicated in the preceding table, is presented in the next table:

	Company A	Company B
Sales	\$1,000,000 (100%)	\$1,000,000 (100%)
Variable Costs	650,000 (65%)	400,000 (40%)
Fixed Costs	350,000 (35%)	600,000 (60%)
Profit	310,000 (31%)	310,000 (31%)
Break-Even Point	114,300	483,333
Capacity	11.4%	48.3%





Many companies must face the problem of price reduction on their products to meet competition. What effect will this have on the break-even point?

A price reduction of 10 per cent with the same volume means that both the variable and the fixed costs remain the same in dollars, but the break-even point climbs. The table below presents the effect of this course of action:

TABLE V

	Company A	Company B
Sales	\$900,000 (100.0%)	\$900,000 (100.0%)
Variable Costs	750,000 (83.0%)	450,000 (50.0%)
Marg. Income	150,000 (17.0%)	450,000 (50.0%)
Fixed Costs	50,000 (5.5%)	350,000 (38.5%)
Profit	100,000 (11.5%)	100,000 (11.5%)
Break-Even Pt.	294,118	700,000
% of Capacity	29.4%	70%
(100%=\$1,000,000)		

A price-cutting program must consider that a 10 per cent reduction in sales price will require an 11 per cent increase in volume to restore the profit earned before the cut was placed into effect.

The next point is the effect of a volume reduction on the break-even point. If there is a reduction of 20 per cent in volume, the variable costs remain in the same proportion and the fixed costs increase in per cent of sales, although the amount remains constant. Table VI presents the effect of a volume reduction:

TABLE VI

	Company A	Company B
Sales	\$800,000 (100.0%)	\$800,000 (100.0%)
Variable Costs	600,000 (75.0%)	360,000 (45.0%)
Marg. Income	200,000 (25.0%)	440,000 (55.0%)
Fixed Costs	50,000 (6.3%)	350,000 (43.7%)
Profit	150,000 (18.7%)	90,000 (11.3%)
Break-Even Pt.	200,000	636,000
% of Capacity	20.0%	63.6%

Management should give serious consideration to establishing a profit planning department. This department, which should work closely with the production depart-

ment and the sales department, should have the job of establishing a standard profit, or a goal to be reached. Such a standard cannot be fixed in amount any more than golf scores can be fixed.

A company should know the profit from the sales that are made, from the capital required to produce the profit, and the liabilities incurred in procuring capital. Management is continually asking how much the sales should be to make a desired profit. The formula for determining the answer to this question is, "the profit desired plus the fixed cost divided by the per cent of sales dollar applicable to the fixed cost and profit." To illustrate this formula in its simple form, Table VII is presented:

TABLE VII

	Plan A	Plan B
Profit	\$ 500,000	\$ 750,000
Fixed Costs	650,000	650,000
Total	1,150,000 (23%)	1,400,000 (23%)
Sales Required	5,000,000 (100%)	6,087,000 (100%)

TABLE VIII

	Budget Amount	%	Actual Operations Amount	%	Variations Amount	%
Net Sales						
Profit to surplus						
Dividend requirements						
Income tax						
Interest on bor'd capital						
TOTAL capital costs						
Income available for operations						
Fixed costs:						
Manufacturing						
Selling						
Administration						
TOTAL fixed costs						
Income available for variable costs						
Variable costs:						
Manufacturing						
Selling						
Administration						
TOTAL variable costs						

The profit department's studies, which give effects to total costs and their effect

on profits at break-even point, should be submitted in timely comparative statements, and should tie in with budgets and any other pre-planning that is done. Such a statement which does not involve any new theory, but is in a form that should appeal to management, is suggested in Table VIII.

A second suggested statement for management guidance, which follows the break-even point theories, is as follows:

	Best Year 1936-1940 Amount	%	Current Year Amount	%	Budget Amount	%
Sales						
Variable costs						
Marg. income						
Fixed costs						
Profit						
Break-even point						
Capacity required at break-even point						

The accompanying charts present graphic examples of the break-even point under various fixed-variable cost conditions. The use of charts is a recommended procedure for a quick comparison of results from period to period.

Every business should know its break-even point. Without profit, business does not continue for long, however. Knowing the reefs and shoals in the sea of accounting information and its effect on profits before trouble arises, is logical good common sense.

Some of the applications of the foregoing simple break-even formulas include: (1) whether to add new products and/or eliminate products, (2) whether to open new territories, (3) the effect of increased wages as a result of union demands, (4) the effect of regulation on material supplies, (5) changes in the economic picture as a result of defense preparations, tariff reductions, credit restrictions, etc. By knowing the effect of the changes in business conditions, management can chart a course of action to insure business profit.

# Team Play Between Methods and Tooling



Henry Hawkinson

**M**ETHODS and tooling are closely related. They are the key to good standards, which in turn, is the governing factor in cost and production.

Our Methods Department at Cannon's is small but efficient. It is part of our team of department heads, which, working in close cooperation has designed and installed some very good devices, tools and special machines.

For example, when our company decided to manufacture conduit fittings, the tooling and methods were discussed and decided upon by the group. Then an estimated standard was set, based on tooling and methods applied to the job.

Our Plant Engineering Department decided upon the location for the operation, after which a layout of the installation was engineered. Molds and tools were completed by our tool room. Our Machine Maintenance Department built and installed certain special machines that had been designed for the operation. At the end of 60 days, production lines were operating and in a year's time we produced 30,000,000 fittings.

Some very interesting methods were employed in setting up production for conduit fittings. First, we decided to produce the castings in nine-cavity molds and to leave the castings on the gate for the drilling operation. Thus, four castings are drilled simultaneously with a four-spindle drill-head, and are tapped in the same manner.

After the tapping the castings are separated at the gate by a shearing operation which also trims the flash from the castings. Nuts for the parts are cast in 40-cavity molds and tapped at the rate of 7,000 per hour, in a special tapping machine using a bent tap, engineered and

By HENRY HAWKINSON  
General Superintendent, Cannon Electric  
Development Co., Los Angeles

built in the plant. Next comes the assembly operation which is speeded up by the use of conveyors and automatic screw-driving machines.

After the production lines had been operating for a few weeks, time studies were made and the estimated standards were corrected, where necessary. Cost accounting then made a comparison between actual costs and estimated standards. This procedure, of course, gave the management the actual production cost. If the standard set for any operation is not met in actual production, the cause of failure must be corrected by a change in tooling, in handling, in design or in personnel.

As a result of the enormous expansion during the war years, we built up many departments under the same roof, covering a wide range of manufacturing operations, such as die-casting, plastics, molding, automatic screw machine work, sand-cast foundry, plating, and tool and die work in a large tool room. We found we had more production capacity than we needed for our own products. Thus it was decided to undertake job work for outside concerns.

This new departure brought us up against competitive bidding. We realized that we had a higher overhead and were using a standard cost system instead of the job cost method used by nearly all contract shops. And, of course, the ques-

tion was, would our standard cost system work out for accurate estimating?

Everyone on our Cannon team was willing to try. Several jobs were estimated and obtained, mostly for production of die-cast parts such as motor crank cases, connecting rods and other castings. We found that our estimates were fairly accurate.

Here is how we work: When a part or assembly is up for quotation, Tooling and Methods decide the tooling for the job, basing their decision on the number of parts to be produced.

The routing is set by the Standards and the Methods Departments. The various department heads are consulted and requested to furnish estimates of the number of parts per hour which will be turned out in each operation. To the actual production cost estimates, the hourly overhead of each department, determined by Cost Accounting, is added, with the result that we come out with a fair and sensible cost.

Thus, by working together as a team, the heads of the production departments and the "paper-work" departments have obtained good enough results in job contracting to merit the confidence of top management. And now, the confidence so built has been strong enough to induce top management to tackle the automotive field and go in for the manufacture of automotive hardware.

In this field we have taken on some sizable contracts, and we are now in the throes of tooling, setting up and converting machines and equipment, and of orienting personnel for competitive manufacturing and finishing automobile parts and assemblies on a mass production basis.

"Teamwork" is our answer as to how we do it. From the top to the bottom, we work together, pull together. Don't forget that each department head does not depend on himself alone. He asks and gets suggestions and ideas from the people in his department. He knows that when the time comes to produce they will back him up, not only with their hands but with their hearts. They know that they are part of the Cannon team. We are all "Cannoneers" together, and that is what counts."

• "Cannoneers" work together. . . . Below, operator is removing casting from shot.



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• A most important function of Army field maintenance at S. F. Port of Embarkation is regular wheel aligning of all vehicles (above).

## New System Cuts Layups in Army Motor Vehicles

**A** NEW system of motor vehicle fleet maintenance that probably shatters the record for low number of vehicles on the deadline (i.e., laid up for repairs) is what the San Francisco Port of Embarkation evolved when faced with the double problem of a slashed operating appropriation and mounting tonnage that equaled the wartime peak.

For the three months ending February 1, 1948, the Port operated 1,800 pieces of mobile equipment, of which 742 were automobiles and trucks, with an average of only 6.4 per cent on the deadline, compared with a normal average of nine per cent for a fleet of this size. The mileage involved was 1,205,363 miles.

Among the vehicles operated at the port there are 300 two and one-half ton trucks; 20 one and one-half ton trucks; 50 three-quarter ton trucks; 37 four to five-ton trucks; 20 Diesels of five-ton capacity or more; and 10 half-ton trucks. The Port owns 12 link belt cranes of 25-ton capacity; eight Bucyrus, of 60-ton capacity; two Northwest, 40-ton cranes; one Bay City 15-ton capacity crane; 11 Limas, 30-ton capacity; three American Gentries, 80-ton capacity; four 10-ton

Koehrigs, and four Mantiowacs, 25-ton cranes. Of the small five-ton capacity cranes, four are Elwell Parker and four are Kary Kranes. A fleet of 105 sedans and 43 ambulances plus miscellaneous vehicles such as motorcycles and pumpers to haul gasoline complete the fleet at SFPE.

In addition to reducing repair costs, the SFPE also took care of the increased flow of freight so promptly that not a single charge had to be paid for freight car demurrage, reports Brigadier General Neal H. McKay, under whose command the Port of Embarkation operates for the Army Transportation Corps.

The operation is dependent upon a simple three-point plan of performance which has proven efficient, economical and could be profitable in civilian use. Results were not accomplished by the use of cheap soldier labor obtained from the Army, because the employees are civilians. It is conducted as a highly organized and carefully managed business with the officers in charge of maintenance having the authority to put vehicles into the shop at any time regardless of how badly they may seem to be needed by Operations.

The three measures mainly responsible

for the low deadline percentage, according to Capt. Raymond Caudill, in charge of the automotive branch, and Major Sheldon Johnson, Director of Maintenance, are:

1. Preventive maintenance.
2. Safety measures.
3. Lack of labor difficulties among civilian employees.

First, preventive maintenance, as explained by Captain Caudill and Major Johnson, is carried out rigidly, when Maintenance actually controls Operations. Briefly, a car, a truck, or a crane is "yanked" off the road when Maintenance is convinced it needs repairing. In ordinary commercial fleets, a vehicle is not usually benched for repairs until it is really limping. This, according to officers at SFPE, is the most important point in keeping the deadline percentage low. The vehicle is ordered off the road; it is brought into the shop and if necessary has its entire motor removed, and replaced by a rebuilt one. Out it goes onto the road again with a minimum loss of time. The removed motor is rebuilt and used in another vehicle which in turn has been brought in for some repair job.

(Continued on page 40)





• A Transportation Corps maintenance employee devised the time-saving revolving motor rebuild stand shown above left; at right, Capt. J. R. Ely illustrates a brake reaction test, featured in the rigid safety program for all drivers at the Port of Embarkation.

This idea of unit replacement was used during the war, and proved efficient and economical. That the system pays off is evidenced by the fact that the Army has more cars on the road continually than private business. All Army vehicles are five or six years old, and constant and careful maintenance is necessary for cars of this age.

If a truck, crane, or car is not pulled off the road for some specific repair, maintenance is automatic every 1,000 miles or 30 days. At the rate of five days at a time, each piece of equipment consumes 180 hours a year in preventive maintenance.

First echelon maintenance involves minor repairs and cleaning jobs, which may be done in first echelon shops or by the driver; second echelon maintenance involves minor repairs which keep the vehicle "grounded" a short time; third and fourth echelon take care of major unit replacements, and fifth echelon is a complete overhaul of a piece of equipment. An echelon may be compared to a degree of work, or a department.

Long range planning of repairs and standardizing of equipment has paid off at

#### PERSONNEL

It was the initiative of these officers and civilians, offsetting the usual Army red tape and "brass" interference, which put over the SFPE transportation organization, resulting in a sound business operation of their motor fleet:

**Brig. Gen. Neal H. McKay, C.O.**

**Col. Fenton S. Jacobs, Dep. Post Commander and Chief of Staff**

**Lt. Col. C. D. Penniman, Chief Port Transportation Officer**

**Major Sheldon Johnson, Director of Maintenance**

**Capt. Raymond Caudill, in charge of Automotive Branch**

**L. O. Bolgen, Dep. Director of Maintenance**

**Supt. E. G. Hoddson**

the San Francisco Port. With an under-equipped motor fleet, and overseas shipping tonnage as great as it was during the war, it was necessary to arrange for every vehicle to keep moving at as low an expense as possible. Combined maintenance supplies and shops, and interchangeable

personnel and parts, are an important part of the efficient operation of the motor fleet.

For instance, the maintenance of a crane would be done in other army installations by the Engineer Corps. At SFPE, all three departments of Engineers, Ordnance and Quartermaster have their central supply depot and maintenance shops in one spot.

The Port operates 970 ordnance vehicles, 780 materials handling equipment, 50 TC and engineer cranes with a 10,000-pound capacity and over. This comprises one-third less equipment than two years ago. Mechanics for the fleet include 80 for materials handling equipment, 47 on vehicles, and 23 for cranes. Civilian personnel has been cut 50 per cent, and despite a drastic cut in financial appropriation, the fleet is functioning 25 per cent more efficiently than it did two years ago.

Each year SFPE transports 4,750 passengers, 744 freight tons of deadweight, and the combined tonnage for passengers and freight is 1,100 per vehicle per year.

Safety measures rigidly enforced by the Transportation Corps have kept the accident rate at a low percentage. Weekly lec-



tures, which are attended by all drivers in the motor pool, stress various safety measures, examples of careless driving, and suggestions to insure safety. Both army and civilian employees are required to attend these lectures, and all suggestions are discussed carefully.

A special accident reviewing board which meets once a week, and is comprised of employees in the motor pool, act as judges on accidents. After careful review, accidents are declared either avoidable or unavoidable. An employee who has an unavoidable accident is first warned; after the second accident, he is suspended for several days without pay; and if a third accident occurs to this hapless individual, he is out of a job.

Tests for drivers and operators are thorough and much more involved and rigid than regular state driving tests. The physical aptitude tests include visual acuity, minimum standard for which is 20/30 for each eye; field of vision test, with minimum standard lateral range of 75 per cent; in the depth perception test average score must be one inch out of six trials; color perception test, which includes special training to enable those found to be color blind to obey traffic signals.

In the hearing test, each ear must have an average range of 15/20 feet; in the reaction time test, that is, testing for the time it takes a driver to apply brakes in an emergency, reaction must be 0.6 seconds. Of the 40 questions in the driver's information test, 30 must be answered correctly. The practical road test involves a trip through traffic from SFPE to Oakland Army Base, and is closely supervised. Out of a possible 200 points for this test, an applicant is not eligible if his points are less than 150.

San Francisco Port of Embarkation officials believe that ineffectual drivers are screened out by these tests, and their low accident rate seems to uphold this theory.

**\* SFPE shops repair from 500-lb. to 100-ton capacity of vehicles including passenger cars, trucks, cranes. Below, a diesel fuel pump test stand, important maintenance equipment.**



**\* Maintenance controls Operations in the Army. When a vehicle is deemed un-roadworthy it is yanked into the shops for overhauling. Here a motor is being removed for re-building.**

In regard to the final item of no labor difficulties, it might be well to stress the point right now that there are no soldier employees in the maintenance division. Administrative and executive work is handled by army officers, but the actual labor is performed entirely by civilian employees. The civilians employed by SFPE are not unionized; however, their wages, hours, and salary are kept to the level of comparable union jobs. Their actual take-home pay is slightly lower than on the "outside"

but sick leave and 26 days a year annual leave, computed in actual dollars and cents, brings the overall financial picture up to that of workers in civilian industry.

The Transportation Corps has had no labor difficulties at all, and authorities at the Port declare this is brought about because all union regulations are carried out, plus the usual civil service privileges.

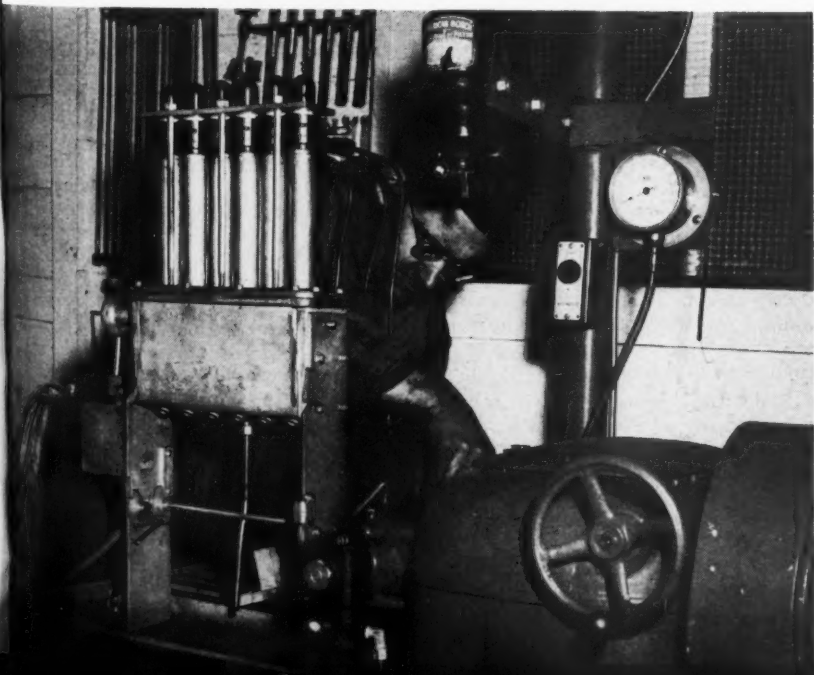
There is no racial discrimination at the Port. One of the second echelon shops has a Negro superintendent who works with white and colored laborers and mechanics.

During any lulls, the laborers voluntarily paint their shops, build racks and shelves and generally make themselves useful and keep busy. There is no government appropriation for the expansion or improvements on many of the shops, so the men do the work themselves. In a first echelon maintenance shop the workmen built themselves a small recreation room, in which to spend their lunch hours or coffee time.

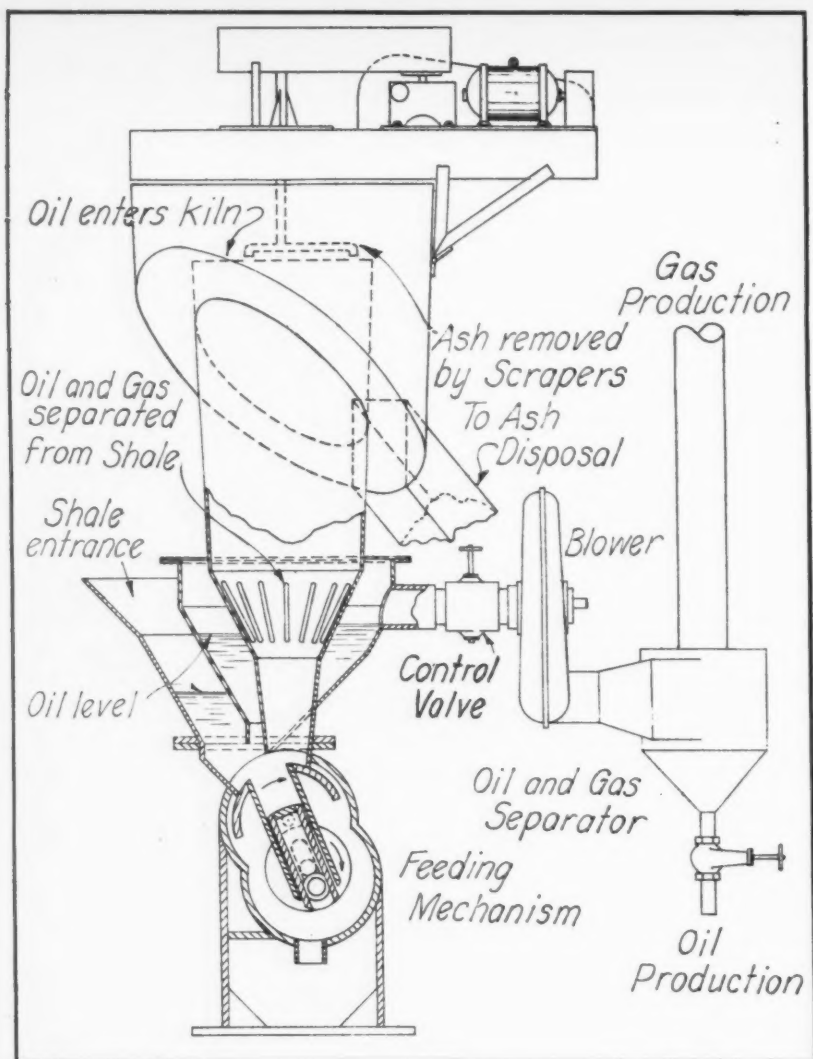
There has been little turnover in personnel in all departments at SFPE, which fact, of course, means a savings in money that is necessitated by the training of new personnel.

These are the pointers advocated by officials at SFPE to carry on their fleet operations at approximately the cost of the same work on the "outside."

At the present time maintenance shops are repairing from 500-pound capacity to 100-ton capacity of equipment including passenger cars, trucks and cranes. They are keeping within their low budget; they are keeping their freight and passengers moving on time.



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• Diagram at left shows method of testing nitrogen content of shale oil. Nitrogenous substances must be removed before the shale oil can be put through other refining processes for conversion into gasoline, diesel oil and industrial fuel. This Kjeldahl distillation battery evaluates impurities in the samples being tested.

This kerogen must be "cooked" at temperatures as high as 1200°F. to convert it into shale oil, an evil-smelling fluid containing nitrogenous and oxygenated materials that must be removed before conventional refining processes may be applied. The new retort will process 50 tons a day, generating about 35 barrels or 1,470 gallons with shale of present richness.

By previous methods, enormous quantities of water were needed to condense the oil vapors to a liquid cool enough to be pipelined away. One engineering estimate was that to get an oil output of 5,300,000 barrels daily—equal to the country's present oil production—one would need to circulate the flow of *three* Colorado Rivers!

This problem is by-passed under Union Oil's new process. Crushed shale is carried upward through an underfeed kiln and burned as it nears the top. The ash-like solids overflow and are conveyed away. Vapors generated by the burning, however, travel downward in the retort, expending most of their heat upon the fresh shale just entering.

This interchange of energy does away with the need for additional cooling, and also makes the operation self-sustaining, with a by-product of fuel gas suitable for mining or electric power generation. The shale oil emerges cool enough to be fed directly into the pipeline.

The process has been tested in miniature at Wilmington for a long period with a small retort which is fed by hand at a capacity of three tons a day, turning out about two barrels (84 gallons) of oil daily.

Surprisingly, the retort is said to operate at more than 100 per cent efficiency, since the amount of oil actually recovered is greater than that revealed in conventional laboratory assay of the shale. Reason may be that the cooking process actually finishes Nature's work by completing the reactions through which the "half-baked" kerogens are synthesized into shale oil.

Although Scotland pioneered long ago in shale oil production and Sweden has developed its deposits to yield gasoline and other valuable products, the U. S. market for shale oil in unrefined form is limited to a few industrial and marine fuel purposes. It can be refined to yield industrial oil and diesel fuel with a cetane rating of 35 to 45, as well as gasoline of about 60-octane quality. To remove nitrogen and

## Cooling Process Speeds Shale Production

**B**IRTH of a full-scale synthetic oil industry in the West, based on the millions of tons of oil shale underlying much of Colorado, Utah, and Wyoming, may be much nearer than is generally realized.

A semi-commercial plant now being built by Consolidated Steel will go into operation at the Union Oil Company's Wilmington (Calif.) refinery some time this summer. Designed on a radically new principle, it promises to surmount one of the biggest technical hurdles previously delaying commercial exploitation of the vast shale beds.

Like the wartime atom bomb project, shale processing presents a tremendous cooling problem. The Army solved its problem handily by locating the secret "Manhattan" project at Pasco, where waters of the Columbia River could be utilized; but Western shale beds lie mostly at elevations of 7,000 feet or higher, far from rivers of sufficient size.

Shale itself does not contain oil, but rather the raw material from which shale oil originates—a "kerogen," a fatty or waxy substance believed deposited by millions of microscopic bugs that once existed in prehistoric marshes or ocean bottoms.

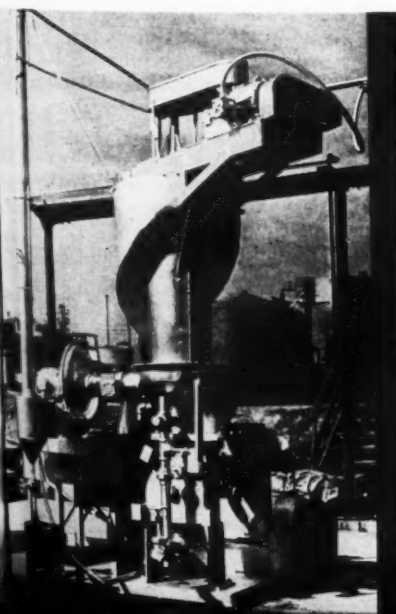
sulphur, however, may mean hydrogenation, catalytic cracking, or acid or caustic treatment. Cost of such facilities on a large commercial scale might well run into many millions of dollars.

Since the oil shale occurs in beds up to 1,000 feet thick and is buried deep beneath the surface, shaft mining is necessary. At the Bureau of Mines' experiment station at Rifle, Colorado, a large mine has been opened to determine operating costs at an output of 5,000 tons a day. Entryways are large enough to take large diesel or electric equipment underground. Preliminary figures are that shale thus may be mined for about 50 cents a ton.

When natural crude could be bought for about half the cost of synthetic, shale oil production seemed hopelessly uneconomic, but recent events have swiftly altered the picture. Rising petroleum prices have narrowed this gap. Congress, fearful of war and anxious to create a U. S. synthetic oil industry as a safeguard, now appears of a mind to absorb the differential, by subsidy if necessary.

Union Oil, which holds large tracts of shale deposits in Colorado, sees much promise for its new retorting process in a commercial scale and is offering to license it to interests capable of developing the needed facilities. It is expected that the new 50-ton retort may be moved later to Colorado for further test in the Government's experimental project at Rifle.

\* Below is miniature retort, long used at Union Oil's Wilmington refinery for test purposes, soon will be replaced by pilot plant about 20 times larger. Shale is moved upward after being shoveled into hopper at right, halfway up. As it reaches top, it burns, with ash spilling over into discharge pile. Gases generated emerge through stack at right, after traveling downward and dissipating most of their heat upon fresh shale just entering. Liquids are condensed and drip down from oil and gas separator, located just below the snail-shaped blower at left, and are piped away.



# Production: Skip It Until After You Have Analyzed the Market

*(First of a series of three articles prepared by West-Marquis, Inc., Pacific Coast advertising and marketing counsel. Succeeding articles will discuss selection and development of markets, and planning advertising to fit marketing plans.)*

**T**HERE is a growing graveyard of Western firms that launched impressive postwar programs, without understanding the necessity of studying markets or distribution. Many of these companies acquired good design and production techniques when they were building war materials, but their experience with one buyer, Uncle Sam, was no preparation for competitive marketing.

There are already a good many firms that have given up their postwar conversion plans, returning to sub-contract or government work. New plans for aviation have made such a decision possible in some instances.

The difficulties of operating with only a production outlook is well illustrated by one man who took over a small manufacturing firm about a year ago. During the war, the plant formed aluminum parts for airplanes; later it had converted to several aluminum products marketed through hardware and department stores.

Before he went into the deal, this man ordered and received a complete audit of the company's books. His attorney carefully checked the title of real estate holdings and the legal condition of the corporation.

These analyses represented a substantial investment in time and money and gave the investor excellent information about his fiscal position and production possibilities.

At the time, it was suggested that a study be made of potential markets, competition, types of outlets, prices and consumer demand for the company's products, but this suggestion was brushed aside without serious consideration.

Fair volume had been developed on one item, but within a few months it became evident that the demand had been "strictly from scarcity," and sales dried up almost completely. Production costs would not permit price reductions to meet the competitive situation.

Even a casual market checkup would have indicated this condition, as the product was one for which prices had been established before the war by nationally known manufacturers.

Another product, marketed for children's use, sold well to department stores for two or three months, but sales were soon equalled by complaints of irate mothers that their little darlings were being hurt by the product. A change in design to eliminate the trouble would have been simple before production started, but involved heavy tooling expense at this later date. It was finally decided that buyers could not be recovered, even if the change were made, and so the product was dropped. In addition to the loss of business, the company held substantial stocks of partially finished products.

One factory on the Pacific Coast is probably still filled with electric appliances for which no motors have ever been available. Another appliance manufacturer wound up with a cost figure about equal to the retail selling price of his competitors. There's a large stock of trick card tables that are beautiful, but too heavy for any woman to set up or move around.

Everybody knows these sad stories, especially the collection agencies and the credit bureaus in our Western cities. The answers aren't hard to find, either, but too many business men have never looked for them.

As a matter of fact, the attention paid to product or market studies and distribution methods is usually in inverse proportion to the experience of the business executive. Well established manufacturers, who might be expected to know all the answers, almost invariably test new products, make regular market studies, and keep their fingers right on distribution. It is the man who has never been in competitive merchandising who thinks he knows all the answers. He can look at a product and "know that it will sell." Because the



Jimjones Company has made money on a kitchen widget, he knows that he can build one cheaper and sell it better — until he tries.

Market studies can be very simple, confined to a few basic inquiries and comparisons. Or they can be extended to include many aspects of consumer demand and dealer cooperation. Sometimes all the existing questions can be quickly answered, and in other cases the preliminary study shows the necessity of more detailed research.

It is often possible to get accurate and comprehensive answers from people who are natural centers of such information. Recently a California investor considered the purchase of an established Midwest company. The first thing he wanted to know was the market potential on the Pacific Coast, so a quick study was made among distributors, jobbers and trade paper representatives in that territory. Independent studies in each city showed a remarkable correlation, and all indicated an overcrowded, highly competitive market.

The product under consideration had a major design and construction feature that was supposed to make women prefer it to established competition, yet the trade survey clearly showed that this preference did not exist in the West, and that other manufacturers had competitive designs that were in substantially greater demand. The Midwest line had no price advantages, nor any special inducements to distributors.

Equally important was the information developed that the entire field in which this product competes has been badly overcrowded since the war, and that distributors and dealers are anxious to buy only established brands, because they have been burned by a succession of ambitious newcomers.

#### When to Make a Survey

When should a market survey be made, how should it be made, and what information should it include?

It is almost certain that some market study should be made whenever a new product, or a major change in an established product is proposed. The study should certainly be made in advance of the introduction of the product, and usually before design and production plans are definitely settled.

Many new products or design changes are the result of a market demand that becomes evident to established manufacturers. Every manufacturer is conducting market studies every day, through his salesmen, distributors or dealers, who pass along suggestions for changes or improvements, or the addition of new items.

An outstanding instance of such change is the new design in floor furnaces that is now generally accepted. Gas-fired floor furnaces have been widely used throughout California for years and have followed

much the same design. In the postwar home building program, a demand became evident for floor furnaces that required little or no excavation, thus saving time and labor costs. Most furnace builders are now offering this new "stubby" model.

In a completely different field, a beverage concentrate manufacturer found that his bottlers could not make money with a 10-ounce bottle, under existing material and labor costs. It was quickly evident that his salvation lay in a smaller package, which was adopted. There was no formal market survey among consumers in this instance, but the contact of management and salesmen with bottler distributors established the facts of the situation beyond dispute.

#### Distribution Channels Changing

A more comprehensive study of package size is now being made by one of the citrus juice canners in southern California. He has made a test pack of five-ounce cans, for individual servings on trains, in restaurants, hospitals, etc. The technique of testing is by sampling, which of course is widely used for package goods. This program is intended to show the size of the market, the best types of outlets and the consumer reaction. Regular brokers are handling the tests, but are trying many other channels of distribution besides the company's established grocery outlets.

There has been such a general upheaval in distribution channels that no manufacturer can afford to be complacent about his business. To see how far products are crossing customary lines of distribution, it is only necessary to walk through a metropolitan drug store, an auto accessory dealer's or a variety store.

#### What Market Analyses Reveal

The information to be developed varies from one study to another but generally the following data will be sought:

1. Total market potential.
2. Markets by territories.
3. Existing competition.
4. Price position of new product.
5. Established distribution channels.
6. Possible new trade outlets.
7. Attitudes of trade and consumers to new products.
8. Established brand preferences.
9. Features or advantages of new product.
10. Possible disadvantages of new product.
11. Advertising and promotion necessary to gain acceptance.
12. Possible new product uses.
13. Extent of service needed.
14. Packaging and shipping.

Druggists are important outlets for women's hosiery; auto supply stores have a wide line of hardware items; food markets have drug departments; and department stores are selling motorcycles.

An essential part of the preliminary study for many new products is selection of trade channels. This may be no problem where outlets are well defined, but it is always helpful to explore the possibilities of new or added dealers.

It should, of course, be pointed out that not all market studies of new products show discouraging prospects. Some confirm the most optimistic ideas of designers and producers. But the fact that such a small percentage of new products are ever successfully marketed certainly proves the importance of checking demand and distribution, as well as other factors.

If the company is well established, and is bringing out a new product or model, the market survey may be a natural part of the sales program, as has been discussed. Many firms prefer to test their new products before they are revealed to dealers, and use other methods of market analysis. A new company has little trade or consumer contact and must usually depend on outside organizations.

For either trade or consumer studies, there are established firms that operate on a regional or national basis, depending on the program. These research organizations work in cooperation with the company's sales promotion department or advertising agency, since it is desirable that the whole marketing plan be closely coordinated.

From a scientifically controlled and selected "sample," such a survey can determine potential markets with a high degree of accuracy. Such a test can be made without revealing the manufacturer's identity if that is desirable.

Highly interesting and significant improvements in aircraft design resulted from a study of what passengers did or did not like in airline travel. Some of the results were a complete surprise to the manufacturer, but were so definitely established as customer demands that there could be no argument. Without the survey, it is quite possible that the strong customer preferences might not have been realized for an indefinite time.

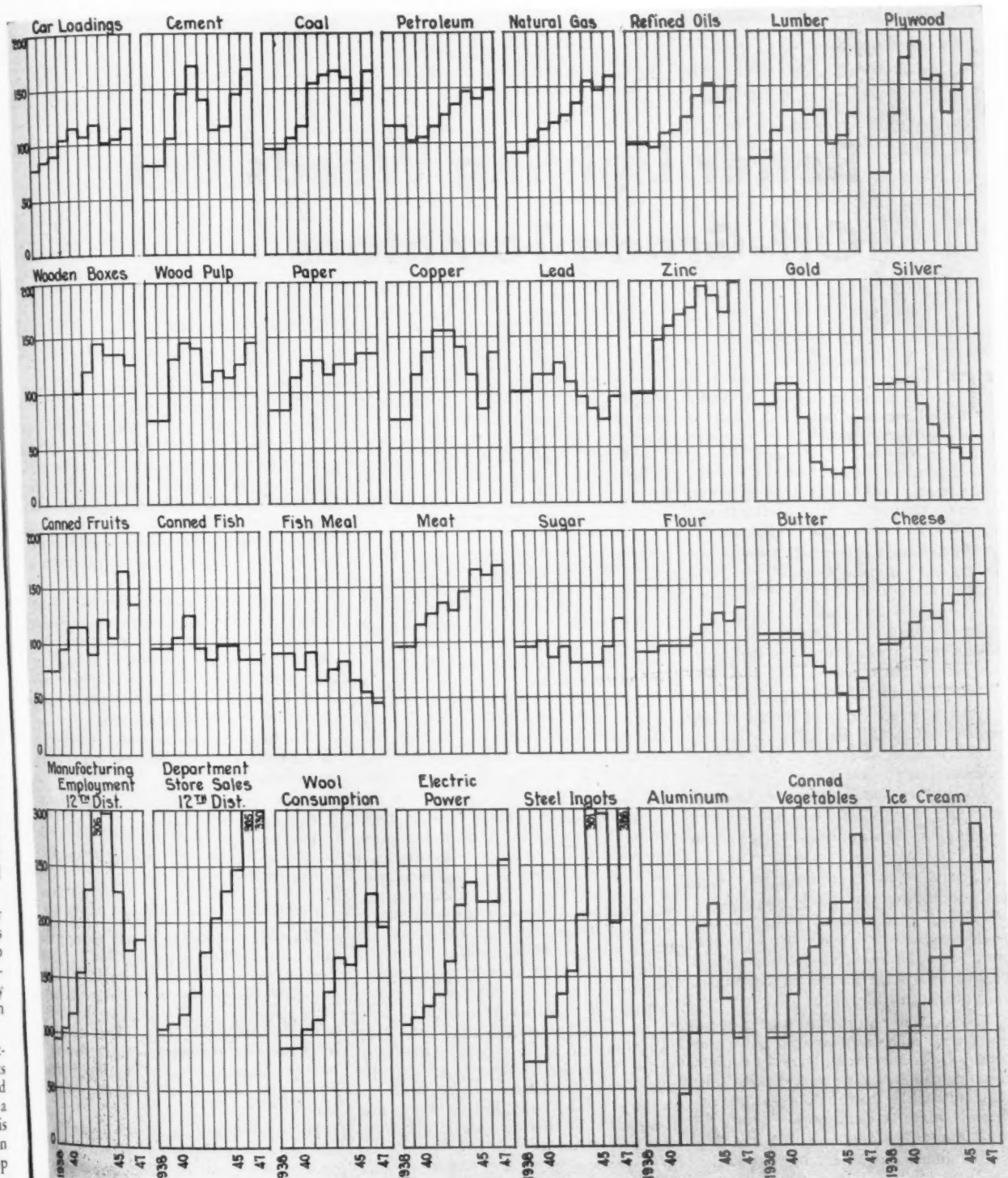
It cannot be emphasized too strongly that market surveys or product studies should be started far enough in advance to be fully helpful to designers and sales executives. Many firms would be alive today if they had obtained accurate information before it was too late.

The company's advertising or marketing counsel should be brought into its plans when they are first started and should have an important part in each step of a marketing program's development. This is only good business insurance, as it can prevent delays and losses, as well as help assure profitable sales.



# WESTERN INDUSTRIES ADVANCE

Trends in indexes of industrial production from 1938 to 1947 in the 12th Federal Reserve District are shown in the charts below, prepared by Western Industry from Federal Reserve Bank figures. Most commodities take 1939=100. For wooden boxes, 1942=100 because adequate data not available for earlier years. For manufacturing employment (which excludes fish, fruit and vegetable canning), department store sales, wheat flour, electric power and carloadings, average 1935-39=100.



## Better Lighting Weeds Out Off-Grade Tomatoes

**T**O insure proper sorting and grading of fruits and vegetables, the Thornton Canning Company of Thornton, California, have found a most important factor to be that of adequate lighting. Their solution of several problems involving seeing conditions is a Merit Award winning entry at the Second International Lighting Exposition and Conference.

When it was discovered that a large percentage of off-grade tomatoes was being canned at the company's plant, the fault was attributed directly to the sorting tables where the girls complained that they were unable to select the exact color and quality requested. Their reason was that they "couldn't see them fast enough."

A light meter check of the three long sorting tables made by lighting engineers of the Pacific Gas and Electric Company revealed that the intensity of light ranged from three to 15-ft. candles on the work area. All of this light was incandescent with most of it being contributed by spill light from the general lighting system.

Recommendation was made for a high intensity of illumination that was cool and diffused. The equipment which was installed consisted of seven two-lamp 40-watt Smoot-Holman NE-2461, porcelain enamel fluorescent fixtures in continuous runs over each table.

To reduce all possible direct glare, these units were mounted two feet above the sorting table. Fluorescent lamps of various color combinations were tried, but the standard unit for each fixture was one 40 W. soft white and one 40 W. 3500° K. white fluorescent lamp.

To minimize brightness contrasts all the units were sprayed on the outside with a 50

per cent reflection factor grey. The readings with a Luckiesh-Taylor brightness meter showed a surface brightness of 95-ft. lamberts from the general lighting on the exterior of these fixtures. Other brightness readings taken were:

<i>Lamberts</i>	
Inner reflectors (completely out of line of vision).....	310 ft.
Sorting tables (work area).....	72 ft.
Sorting tables (peripheral field of vision).....	15 ft.
Walls (within line of vision).....	35 ft.

After eight months of intermittent service and approximately 1,200 burning hours the original lamps and fixtures were found to produce an overall average of 192-ft. candles on the entire length of each sorting table. This intensity which could be well in excess of 200-ft. candles may be sustained with a planned maintenance program of checking the reflectors and lamps.

The solution of two other cannery lighting problems, also in the Thornton plant, pertained to the 12 20-ft. long peach and apricot sorting tables which had been operating under five to 12-ft. candles of general lighting. Because of the construction of these tables with high can shutters on backing, the same type of diffused localized lighting of a high intensity could not be employed.

Through experiment it was decided to use incandescent lighting. Lights had to be mounted at least five feet above the sorting table, with a sharp degree of cut-off so they would not shine into the eyes of the girls working in the next row facing these units. The fixture designed for these working tables gave a high intensity of light on the working area with a 34° cut-off and an indirect quality.

The standard unit was a trough using 150-watt silver bowl lamps spaced 18 in. apart. The inside of the trough was painted a semi-gloss which produced a mixed specular and diffused reflected light. After several hundred hours of burning, the light intensity was measured and found to be 106 foot candles on the working surface. These units are mounted so high that the heat effect from the incandescent lamps is negligible.

As the time of operation has been short, complete figures as to increased production for apricots and peaches are not available. However, Nelson T. Nowell, manager of the plant, stated that he felt production and quality had improved due to re-lighting of sorting and grading tables.

The brightness measurements taken with a Luckiesh-Taylor brightness meter were as follows:

<i>Lamberts</i>	
Outside surface of units.....	90 ft.
Inner reflectors (within line of vision).....	270 ft.
Sorting tables (peripheral field of vision).....	25 ft.
Sorting tables (work area).....	55 ft.

To achieve a finer degree of color quality, it was decided to use a yellow lamp in conjunction with the silver bowl lamp. At first 100 W. yellow incandescent lamps were placed every 18 in. in a double socket with the silver bowl lamps. This arrangement gave slightly more color than desired, but the change to spacing the yellow lamps 36 in. apart has proved satisfactory in operation.

For a safety feature the design of this unit requires vapor-proof receptacles because of the mist and dampness usually present in the cannery.

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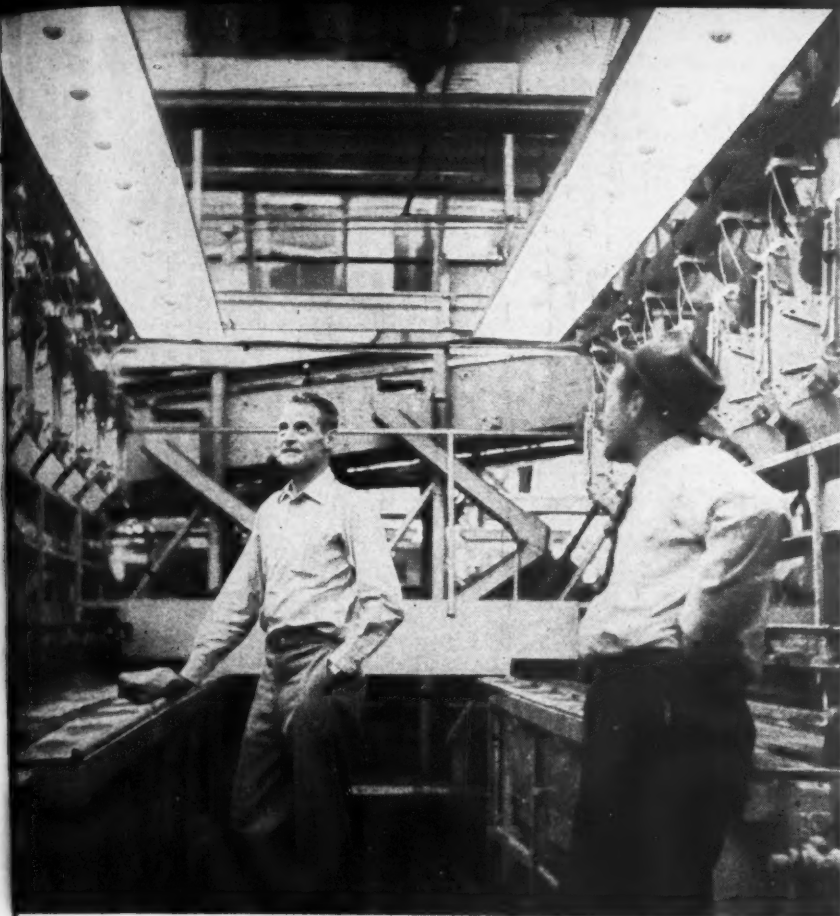
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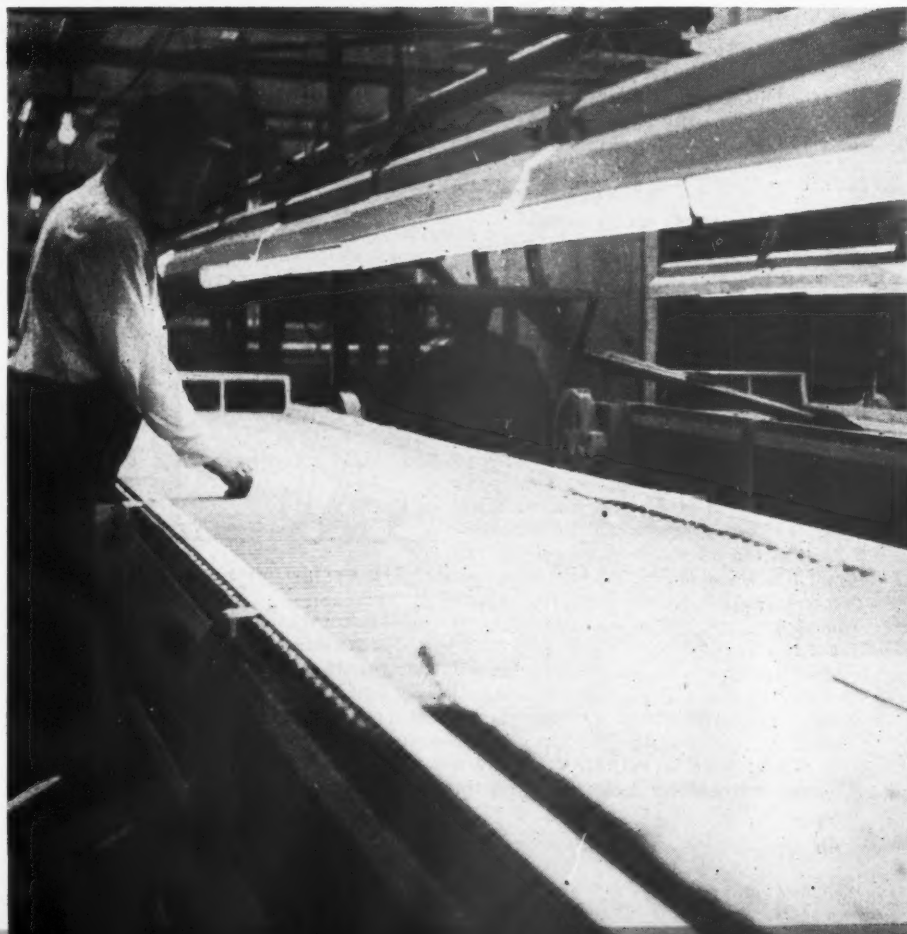
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• Because a high intensity of illumination that was cool and diffused was necessary in selecting an exact quality of tomato, seven two-lamp 40-watt porcelain enamel fluorescent fixtures were installed, over sorting tables, shown at left.

• These peach and apricot tables were constructed with high can chutes on backing, as illustrated at right, making it difficult to work out a high intensity of diffused localized lighting on work areas. An incandescent fixture was designed that gave a high intensity of light with a 34 degree cut off and an indirect quality.



Wherever materials are to be handled, there some business organization is either making or losing money, perhaps an amount large enough to mean the difference between profit or loss on the entire operations of the company. For that reason, "Western Industry" provides a continuous editorial service to its readers on materials handling developments and problems. The accompanying article is another of "Western Industry's" regular features on the subject of materials handling.

# Magic Carpets For Modern Industry

By EDGAR A. BROWN  
Manager, Southern California Office  
Evans Products Company

JUST how the pallet came to be so named may some time be explained. Webster defines the word as "a small and mean bed." The application of the name to the article which we now employ



• Industry's magic carpet.

with a lift truck or transporter may have had its origin in the armed services during the late war. There is reason for suspecting this, considering their proclivity for adopting strange nomenclature.

What ever may have been the idea back of the term pallet, it is now by no means either small or mean. On the contrary, it is an industrial giant with importance of first magnitude. Actually, to observe the wonders accomplished by lift truck and pallet is to believe that they are the inventions of the age with their usefulness only yet slightly developed. Aladdin must have rubbed his lamp vigorously to produce such a magic carpet for today's manufactured goods.

Of course, there was nothing magical connected with the matter. Mechanized handling of freight and goods originated more than 20 years ago. It happened that in World War II stevedores and warehousemen could not keep pace with the

mountains of materiel headed for war fronts. So, the task was given to the lift truck and pallet. America's ability to deliver the goods in any quantity, to any place, ahead of time was then demonstrated. Every man who had anything to do with that materiel movement emergency, praised the truck-pallet team.

While this was going on, transportation managers in industry made notes on their cuffs about the things they would do with trucks and pallets in peacetime production. And erstwhile foremen, superintendents, and technicians wearing uniforms, were calculating shrewdly how they would revitalize their former jobs when the war came to an end.

It was no dream . . . today those men are doing those things in transportation which are the amazement of the production



• Cut transportation costs with pallets.

world. Just consider . . . various authoritative statements place the cost of most manufactured goods as being made up of 85 per cent transportation in one form or another (anything moved up, down, or sideways, is transported). No wonder that economies in the classification of transportation are so deeply important!

Evidence of this is eloquent in similar statements made recently to the writer by several industrialists. The gist of their re-



• Tall plants doomed?

marks was that the modern manufacturer may as well reconcile himself to the grim advisability or necessity of carrying on his operations at ground level. Multi-story plants are apparently doomed. The decision has been handed down by the inexorable laws of transportation.

Look about you at the newly-built industrial plants and those under construction. They are flat as a puddle and are located where there is no need of reaching for the sky. Oh; elevators will continue to be sold in increasing numbers, but they will handle human freight, not factory goods. In the new two-story plants the upstairs will probably be offices.

The extent to which the lift truck and pallet are shaping new factory plans is remarkable. These prime movers thrive on elbow room; they dislike posts and columns which restrict their stride. Even though the lift-truck can "turn on a dime," it pays most dividends where there are fewest turns.

This has influenced industrial architects to design clear-span roofs, eliminating en-



tirely posts or columns. A few years ago the clear-span warehouse or factory would have been judged too costly, but today the truck-pallet system quickly wipes out the added cost. Not only is the plant benefited by the freedom of movement, but it is in a position to make wise selection of the trucks and pallets best suited by capacity or size to the job involved.

This thought introduces a feature of palletizing which has been annoying to some progressive companies. They may be saddled with buildings in which the bays do not permit freedom of movement or do not well fit themselves to the merchandise which is to be handled. In these circumstances the palletizer can only be content with a part of the economy obtained by the new-plant owner. Even so, the writer can cite many relatively out-moded plants which are cutting incisively their former handling costs through the introduction of truck and pallet.

Standardization to some extent may be hoped for in lift-truck and pallet manufacture, though the variety of goods in our industrial picture will place limits in this direction. With this concern turning out type-metal and that one engaged in production of tin cans, transportation loads vary widely. Fortunate is the plant manager who has the relatively simple problem of palletizing a standard package such as canned goods, dried fruit, sacked sugar, and other uniformly shaped containers. Even in these categories, individual pallet size preferences are evidenced.

Gradually the pallet will break the bonds of the warehouse or factory and take to the rails and highway, permitting shipper and receiver to enjoy alike the advantages of lift truck-pallet loading and unloading. Already a number of national shippers are availing themselves of this.

A satisfactory method of pallet interchange will eventuate, either through pallet pools or by a successful campaign to obtain from common carriers favorable freight rates upon returned empty pallets in carload lots. This must transpire if in-

dustry and our entire distribution system is to get full benefit from these eager-beaver transportation devices. Then the familiar loss of time in loading and unloading, demurrage charges, delayed spotting of cars, and shortage of rolling stock will be a thing of the unpleasant past.

The lumber industry is disturbed over one feature in connection with palletization: viz., the attitude of the workman toward the pallet. While the mechanical lift-truck may be maintained and serviced religiously, pallets get step-child treatment, even though the combined investment in the pallets may be more than the cost of the truck.

This possibly results from the driver and his helpers seeing the pallet as just so many boards nailed upon 2x4's, to be thrown around carelessly and otherwise abused. It would be well for them to learn that the pallet, if well made, was a product of intelligent workmen using precise jigs



• Only high grade lumber right for pallets.

and highly expensive automatic nailing machines, and was inspected at the time of its manufacture for accuracy to close tolerances.

That the pallet is rapidly becoming a piece of conveyor machinery, rather than a "mean bed," is evidenced in the automatic palletizer machines now being made available to industry. In these amazing machines (seen in action at the recent Cleveland Materials Handling Convention) the missing link in truck-pallet opera-



• Reliable and without temperament.

tion has been welded. The uncanny way in which the machine swallows cased goods at one end and disgorges them at the other end, completely and neatly palletized, is a production man's dream. Hitherto unheard of reductions in handling costs will result when the triple-threat palletizer-pallet-lift truck teams get to work.

The future will see more attention being given by buyers to the kind and quality of lumber used in their pallets. They may now be highly discriminating on the grade of steel used in the forks of trucks or the crankshafts of motors when at the same time they make outlays of several thousand dollars for pallets constructed of "hardwood" or "softwood." Were they to buy homes built to such specifications, the result would not be a happy one. Reliable forest products manufacturers invariably state the grade of lumber, as well as the species. Pallet buyers would do well to remember this.

Today's breath-taking developments in all forms of transportation are getting response from ambitious, intelligent young men who visualize what is around the corner. Some of them are executives, but more of them are "out on the floor," where things are moving faster than Paul Bunyan ever dreamed.

These young fellows with their lift-trucks and pallets are doing a job to open the eyes. Talk to them. Get their ideas. Some of them are the plant managers of tomorrow, because they have worked to the tempo which will be demanded tomorrow.



One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

# Pacific Group Visit Washington D. C.

**Committee from Western Coast aim to induce use of Washington, Oregon and California ports**

By ARNOLD KRUCKMAN  
Washington D.C. Editor of  
*Western Industry*

**W**ASHINGTON, D. C. — There are considerably mixed feelings in the capital about the impending visit of the committee from the Pacific Coast representing the transportation interests who wish to induce the federal government to make more use of the facilities of the ports of Washington, Oregon and California for the shipment of the near-war commerce. The federal officials know very little about it, but what they do know gives them a headache.



The people on the Hill seem to know almost nothing about the purposes of the committee, and they are rather miffed, in a mild way, because they have not been consulted. Others, who are not a part of government, but who represent the interests of the Pacific Coast ports, and who are supposed to know what the people out there have in their minds, are rather peeved because they know so little about the committee's plans, and because they have been virtually not consulted in the making of any plans.

This outline of the reaction of those in the capital may not be pleasing to those who read this on the West Slope, but it would seem more useful to know what the people here really think than to have a sugary version of sweetness and light.

Information here is that the committee—one or two of whom are here already—will look into matters "concerning government-controlled cargo programs: European relief, China relief, stockpiling of materials, the establishment of an OIT regional office to issue export licenses on the West Coast, and an office of the Supreme Command of the Pacific on the West Coast."

The thought that sticks in the minds of the people in Washington is that the people in the West who are sending the committee to the capital apparently do not have even a rudimentary understanding of the conditions that presently affect these various problems in Washington.

Some of the Congressional delegation from the Coast are reminded of another committee which came here not so many years ago to do something about oil. Apparently feeling that size and flourish and impressiveness would overawe the capital, they came here in numbers in a special train with glamorous commercial tinsel, entering with a swank that was something between the progress of an eastern potentate and a circus hegira. The trouble was they did not know anything about the implications of their problems as they were understood in the capital, and as these implications affected the people and the machinery of government in the capital.

Despite the money obviously spent upon their pilgrimage, they had not spent anything upon the effort to get the intimate understanding of the conditions they might find here. The result naturally was that they were confronted with a situation for which they were unprepared, and which they could not meet. After considerable visiting around and about, and much entertaining in a flashy manner, they realized their efforts were largely futile, and they went back without any results. Later, after quietly repairing their omissions, they came back and got results.

For instance, in the matter of the plan to establish an Office of International Trade in some port city of the Pacific Coast, in order that government may issue export licenses out there. It is unfortunate, but it is true, that the Office of International Trade at this time is in one of those governmental turmoils which make it difficult to do anything much about it.

It is in the process of being stabilized, but you do not achieve equilibrium in anything governmental except with the aid of the alchemy of time. The fact may be unpalatable, but it is true. The OIT has been in this state of convulsion since it was born. Its unstable health springs from politics that had their beginning in the days of FDR. The war agency which handled foreign exports was notoriously radical in the composition of its personnel.

(It was common gossip that the countries with Communistic hues could usually get more scarce materials and commodities than those of less ultra-radical principles.) The whole agency had an atmosphere of plot and counter-plot, of hush-hush, of intrigue, of subsurface fights, that made you think of an old-fashioned Oppenheim thriller.

Unhappily, the OIT took on somewhat the same color when it began to take on life at the Department of Commerce. By what abracadabra they managed to do it, this reporter does not know; but the major part of the old radical gang of the war agency managed to take possession of the machinery of the OIT. Most of them were from the academic shades of the colleges in New York which have spawned many eager young people who in race and thought are close to the Slavic and Palestinian countries sincerely faithful to Communism.

The business finally blew up in the open when they imposed by *regulation* the condition that export licenses for many materials and commodities would be issued to those exporters who quoted the lowest prices. That tore it so wide open that the Hill took a hand. The troubles apparently have been partly adjusted. Gracefully and ungracefully the price-yardstick has been abandoned.

On the very day this is written the word comes through from authentic sources that

(Continued on page 52)

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## REVERE

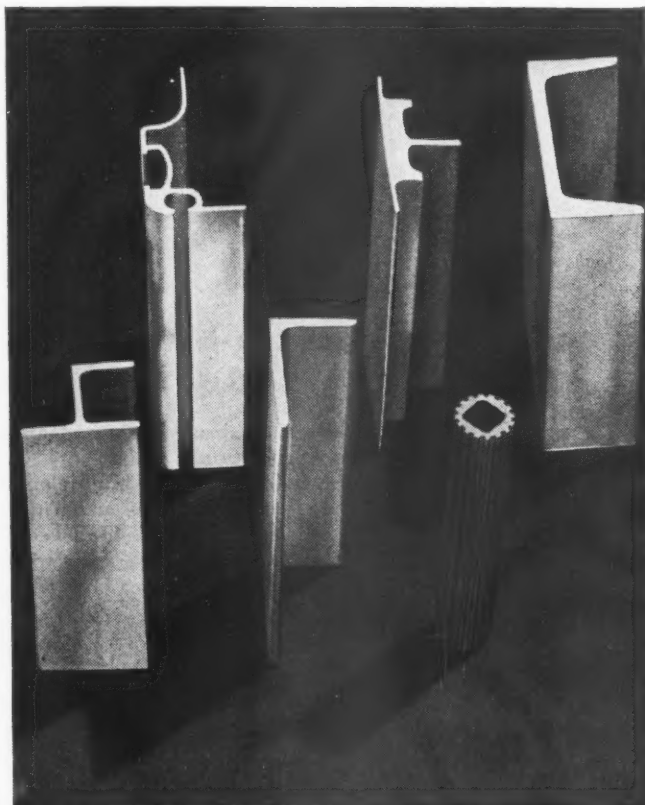
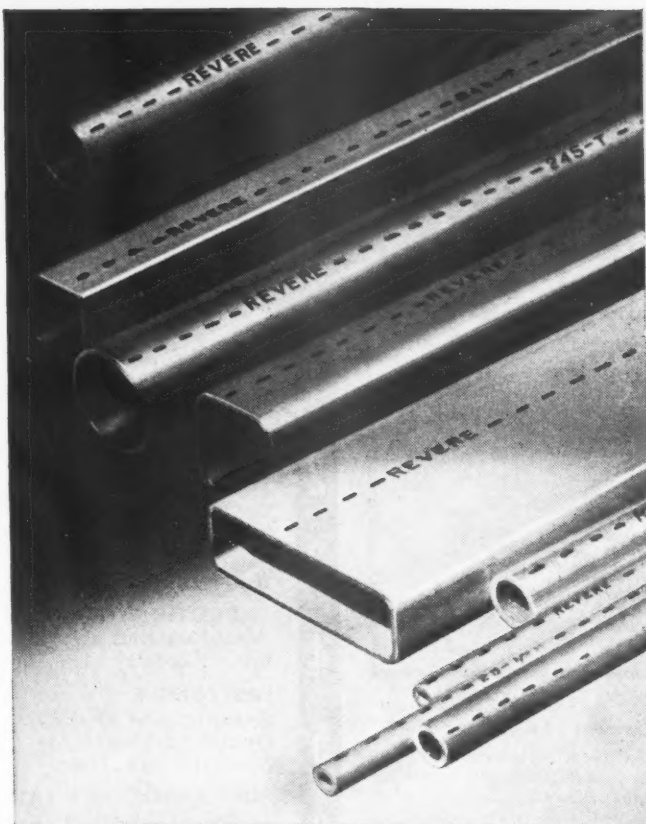
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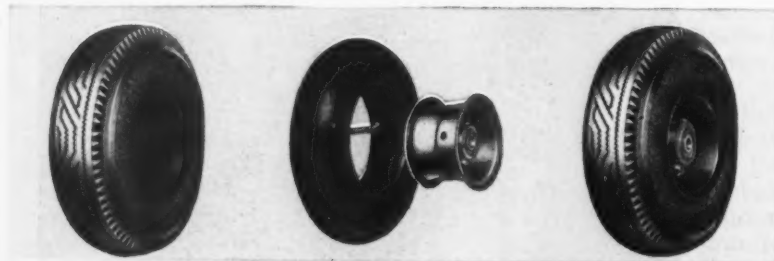
**CUSHION THE LOAD**—Lower air pressure provides a softer ride, reduces breakage and spillage.

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THE GENERAL TIRE & RUBBER CO.

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(Continued from page 50)

the man who has headed the major activities of OIT, F. E. McIntyre, and some of his lieutenants, are to be eased out swiftly. Rightly or wrongly, the Blaisdell personality has caused much of the hostility prevalent against OIT.

It also is whispered that David K. E. Bruce, Assistant Secretary of Commerce, and Under-Secretary William C. Foster both will be kicked upstairs by going abroad with Averill Harriman as assistants to ECA's roving ambassador. If the present purposes can be trusted, the whole kit and caboodle of OIT which has caused trouble may be washed out. This is an election year; consequently much reform will not go beyond the stage of conversation.

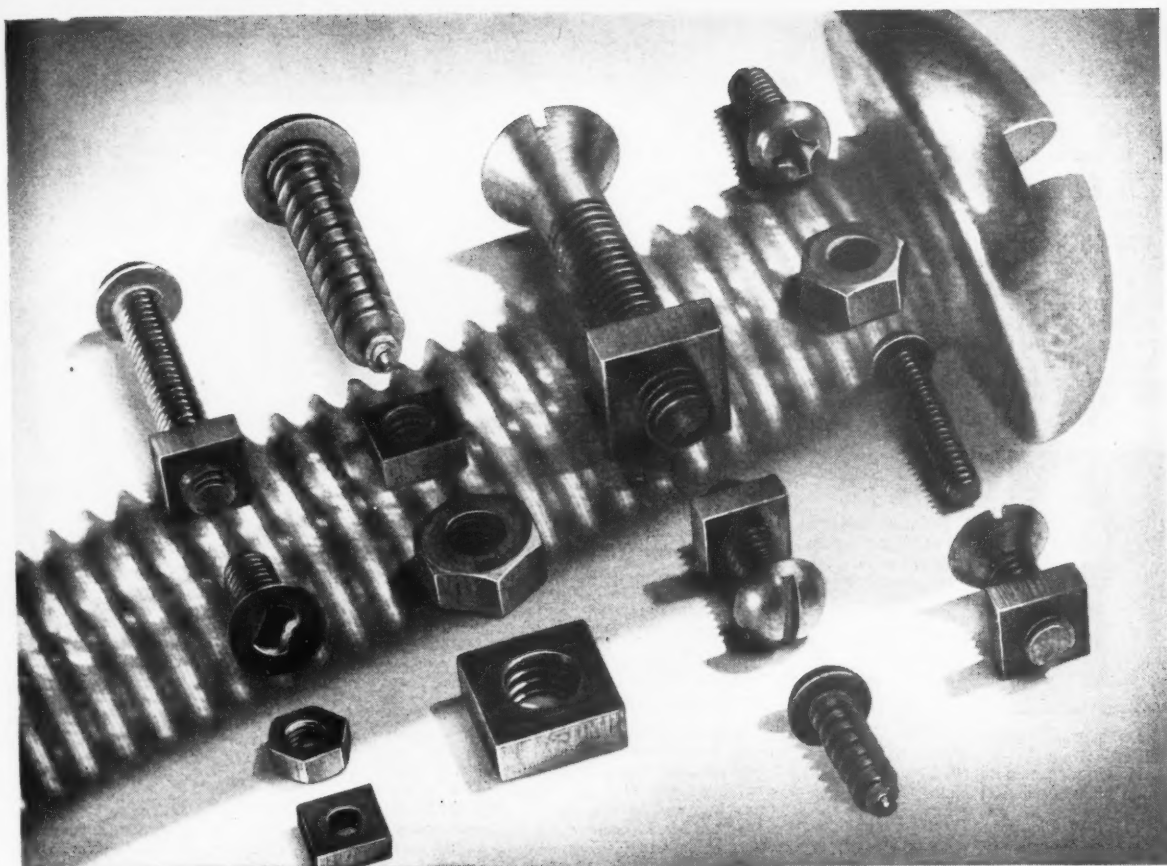
One of the results the committee from the port cities of the Pacific could help to achieve would be to insist that anything so fundamentally business as export licensing should not be measured primarily by political gauges. Meanwhile, the committee also will find that the Field Service section of the Department of Commerce is opposed to a regional office because funds are low; and it would not be possible, in the opinion of the Field Service, to transfer to the Coast, or anywhere else, the review committees and other machinery which must function on the complexities of licenses. The bigwigs think that the actual business of validating licenses can only be done properly here.

MacArthur's Supreme Command of the Allied Pacific has had an office in New York, ostensibly to handle the purchases for Japan and Korea made through the Civilian Affairs Branch of the Department of the Army. The bulk of these purchases have been coal and other fuels.

Congress is now on the verge of supplying \$150,000,000 to finance the purchase of wool, cotton, and, possibly, some hides. It has been pointed out by Westerners, themselves, who represent the Coast states, that it is not known here how Western coal competes with the coal they buy for Japan in the east. No one has yet, apparently told the Army people whether the btu of the Western coal is genuinely competitive with the btu of the coal they have bought in the east. And the btu is obviously more determining than the price of the coal, or the economy of shipping from the West or the east or the gulf ports. It goes without debate if the eastern coal is more useful for whatever purpose MacArthur has in mind, it will be shipped out of eastern or gulf ports.

This question of establishing a Supreme Command office on the West Coast does not at present stir enthusiasm here, either in the Army or the non-military government people. The New York office of the Supreme Command has been an awful mess, according to Washington report; and it is unreasonable to presume that in the light of such experience another adventure of the kind would be popular.





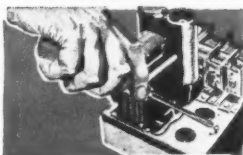
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# WESTERNERS AT WORK...

## Arizona

L. H. James joins Western Perlite Corp., Phoenix, as plant supt. He was formerly mine supt. for Standard Oil Co. at Silver Bell and Martinez mines in Superior.

## California

### Manufacturing

J. M. Kennedy, v.p. of Revere Copper & Brass, Inc., heads Riverside unit. Edward T. Doyle named works mgr.; Edwin D. Howell serves as assistant works mgr.; Edward M. Allen transferred from Rome division as treas., and Marshall L. Land moved to mgr. of industrial relations.



J. J. Buckley

J. J. Buckley elected pres. of Pacific Tube Company, Los Angeles; he was formerly v.p. and gen. mgr. E. H. Lloyd named v.p., and G. C. McEvoy, formerly assistant treasurer, upped to treasurer.

R. H. Good named supt. of planning at El Segundo plant, Nash Kelvinator Corp.

E. T. F. Wohlenberg, Portland, appointed gen. mgr. of Masonite Corporation's newly acquired Mendocino County plant.

R. G. Landis will direct Sherwin-Williams Company's technical operations on Pacific Coast as general supervisor. He was formerly director of Oakland laboratory.

Bill Maxfield named gen. production mgr. of Aviation Maintenance Corp., Los Angeles; Bruce A. Weldon placed in charge of material dept.

Robert W. Kerr, formerly executive v.p. and sales mgr. of Plomb Tool Company, Los Angeles, elected v.p. and director of Bingham-Herbrand Corp., Toledo, Ohio, manufacturers of brake lever assemblies and drop forged products.

Fibreboard Products, Inc., add Edwin P. Cox, R. W. Kenneth Ulm, and Edward C. Jennings to research division for specialized research at Antioch, under Howard S. Gardner, director.

A. F. Knaggs appointed plant mgr. of Longview Fibre Company's new corrugated box manufacturing facilities, Los Angeles; sales will be under A. D. West, formerly mgr. of Container Sales in Southern California.

Robert W. Jackson placed in charge of San Francisco office of General Electric Company's general news bureau, succeeding F. Lowell Garrison — named radio sales mgr. for San Francisco district of General Electric Supply Corp.

Horace J. Lilleston appointed v.p. of The Paraffine Companies, Inc., San Francisco. Mrs. Philomene Hall Negley named ass't sec.

### Oil

A. G. Schei, assistant treas., upped to treas. of Shell Oil Co., Inc., San Francisco, succeeding J. W. Watson, retired. C. C. Combs comes from New York office to replace Mr. Schei.

Tidewater Associated Oil Co. promotes Claude E. Leach to senior district geologist and ass't to mgr. of dept. and A. S. Holstlar to ass't senior geologist at Los Angeles; William D. Cortright headquartered in Bakersfield as district geologist in the San Joaquin division, and Harry M. Whaley to membership in geological staff at Santa Maria.

W. W. Davison appointed v.p. of Standard Oil Company of California, San Francisco. He was formerly general mgr. of Standard's El Segundo refinery. . . . Kenneth H. Shaffer promoted from general mgr. personnel dept., Standard Oil, to mgr. of production, Northern Division, with headquarters at Taft, succeeding A. L. Tietze, retired. W. L. Ingraham upped to personnel manager.

### Utilities

L. Harold Anderson and Norman R. Sutherland, vice-presidents, appointed to newly created positions as assistant general managers of Pacific Gas and Electric Company, San Francisco. They will be executive assistants to William G. B. Euler, v.p. and gen. mgr. O. R. Doerr, sales mgr., succeeds Mr. Sutherland.

H. W. Edmund resigns as v.p. and director of Coast Counties Gas & Electric Company, San Francisco.

Pacific Telephone & Telegraph Company promotes the following: Frank A. Dresslar to v.p., reporting to the v.p.-operations, with primary responsibilities in connection with the company's expansion program; John M. Black to succeed Mr. Dresslar as v.p. and general mgr. of the Northern California and Nevada area.

### Steel

Bert E. Dwyer appointed mgr., Bethlehem Pacific Coast Steel's San Francisco office.

T. A. Kay, formerly ass't plant engineer, upped to plant engineer at Fontana steel plant of Kaiser Company, Iron and Steel Division, replacing W. A. Vogt who transfers to Kaiser Engineers, Inc., Oakland.

### Chemicals

Ole Sand, engineer, joins staff of Stauffer Chemical Company, Los Angeles, working in research, development and production of plastics and rubber products.

### Food Processing

Western Frozen Foods Company of Watsonville names Lawrence Campodonico gen. mgr.; he was formerly associated with Hunt Foods, Los Angeles.

### Research

Dr. Thomas C. Poulter, associate director of Armour Research Foundation of Illinois Institute of Technology, joins staff of Stanford Research Institute, Palo Alto.

### Transportation

Franklin C. Wolfe named v.p. in charge of research and development, Aviation Maintenance Corp., Los Angeles.

R. C. Rydin, former ass't to pres. of Santa Fe Railway in San Francisco, upped to v.p. in charge of executive dept. with headquarters in Chicago. Mr. Rydin succeeds J. H. Keefe, retired.

Commodore Lisle F. Small, pres. of Matson Navigation Company's subsidiary, United Engineering Company in Alameda, resigns to take

position with engineering division of Lima-Hamilton Corp. of Hamilton, Ohio. Raymond P. Hasenauer, treas. of Matson, succeeds him.



J. V. Naish

J. V. Naish named factory manager, Northrop Aircraft, Inc., at Hawthorne.

LaMotte T. Cohu, Los Angeles, has resigned as pres. of Trans World Airline. . . . Kenneth Macker appointed director of public relations, with Sheridan Fahnestock as his assistant.

Lt. Gen. Harold L. George, pres. of Peruvian International Airlines, named v.p. and gen. mgr. of Hughes Aircraft Company, Los Angeles, division of Hughes Tool Company.

### Lumber

Kenneth Smith appointed ass't to pres. of The Pacific Lumber Company, San Francisco. He was formerly pres. of California Redwood Ass'n.

### Army

Col. Thomas H. Chapman appointed Chief of the Los Angeles United States Air Force Procurement field office. Colonel Chapman has been serving in the Pacific Theatre during the past three years with Fifth Air Force and Far Eastern Air Force and was Commanding Officer at Hawaiian Air Materiel Area and Hickam Field.

### Colorado

Graham W. Wickizer, formerly general foreman of open hearth department at Pueblo, named ass't plant mgr. at Colorado Fuel & Iron's Buffalo, N. Y., plant. Howell Drummond, chief clerk for section engineering department, nominated chairman for Pueblo Chapter of American Society for Metals, succeeding Irving Herts.

### Idaho

Dr. H. C. Mowery heads Coeur d'Alene Mines Corp., Wallace, as pres., succeeding P. E. Jacobs of Kellogg.

J. C. Kieffer, Osburn, named mgr. of Spokane-Idaho Mining Company which operates the old Constitute mine in the Pine Creek district, west of Kellogg. He was formerly mgr. of Sunset Minerals property on Pine Creek.

### Montana

A. L. Reed appointed to comptroller's office of the Union Oil Company of California in Los Angeles. He was formerly accountant in the Glacier and Rocky Mountain division office at Great Falls. He is succeeded by Paul K. Noland. Frank White comes from the Los Angeles office to assume Mr. Noland's former duties.

### New Mexico

Chester G. Brinck, Spokane, appointed deputy director, legal division, for Atomic Energy Commission at Los Alamos. He served eight years as government attorney with Department of the Interior, Bonneville Power Administration, Portland.

## Oregon

T. M. Swan, Portland, promoted to supt. of operations, West Coast Fast Freight Co. Ray Dielschneider and Leo Stout upped to district managers.

Edgar M. Burns, v.p. and gen. mgr. of Terminal Ice & Cold Storage Co., Portland, named pres. of National Ass'n of Refrigerated Warehouses.

E. E. (Jack) Shields transferred from Coastwise Line to Sudden & Christenson, Inc., Portland, to become assistant district mgr. Douglas Barnes of Coastwise Line's district operating dept. takes over duties of Mr. Shields.

H. A. Auchenbach appointed assistant supt. in charge of Spokane lines of Union Pacific Railroad's Oregon division, succeeding J. L. Kimmel, promoted to assistant supt. for all lines of Oregon division. Mr. Auchenbach's headquarters will be Spokane, and Mr. Kimmel will be stationed in Portland.

W. D. Hagenstein named forest engineer of Joint Committee on Forest Conservation, succeeding Warren G. Tilton, deceased. He will head the forestry departments of both the West Coast Lumbermen's Ass'n and the Pacific Northwest Loggers Ass'n, making his headquarters at the Portland offices of the West Coast Lumbermen's Ass'n.

Dorell L. Hoffner, formerly district feed sales mgr. for Quaker Oats Co., Akron, Ohio, named Pacific Northwest feed sales mgr. and in charge of marketing output of company's new Portland mill.

R. W. Van Auker, ass't mgr., elected to succeed Joseph A. Larson, mgr. of Cool Bay Mutual creamery, resigned.

Norman Chandler, publisher of the Los Angeles Times, elected pres. of Hawley Pulp & Paper Company, Portland. Carl E. Braun, mill mgr. at Oregon City, elected v.p., and Philip Chandler, v.p. and gen. mgr. of Los Angeles Times, named v.p. and director.

The Alakite Corporation, Portland, formed to mine Alaskan minerals and market them in the U. S., names R. W. Irish, pres., William T. Foran of Fairbanks, Alaska, v.p., and Michael Loring, sec.-treas.



Thomas T. Parker

Thomas T. Parker, pressed metal manufacturing engineer, assumes new post at Portland plant of the Hyster Company. Formerly he was assistant to supt. of By-Products Steel Corporation, a subsidiary of Lukens Steel Co.

## Utah

M. M. Harcourt, formerly with Eagle Shawmut and Penn mines in California and consulting engineer for Vine Spring and Ruth Pierce mines, is mine supt. for Metal Producers at Horn Silver mine, Milford.

F. C. Eastman appointed v.p. of Salt Lake Refining Co., a subsidiary of Standard Oil of California.

## Washington

A. E. Rivers returned to Union Iron Works, Spokane, to be in charge of mining machinery division. He has been associated with the Sierra Zinc Co. of Colville for past six years as diesel engineer and master mechanic.

Jean B. Thibault, Jr., will manage new Seattle offices of the Soule Steel Co. He was formerly associated with the Acme Ornamental Iron Co., Seattle, and the Detroit Steel Products Co.

(Continued on page 56)

## MATERIAL HANDLING

# News

## Electric Fork Trucks and Gas Fork Trucks — CLARK BUILDS BOTH

It is as true in the field of materials handling as it is in the field of medicine that a completely objective and unbiased approach is essential to any search for facts.

In many installations gas-powered equipment does the best possible job; and Clark gas-powered machines do these "best possible" jobs in the best possible manner. Many gas-powered Clark machines remain in operation after 20 years of continuous service—ample proof of their sturdy excellence.

In many other installations it is clear that electric battery-powered machines will serve most efficiently and economically—and in these instances Clark sales engineers recommend Clark electrics.



Gas-powered carloader with HI-LO-STACK clears car doors easily, tiers to 11 feet.



Electric fork truck loads palletized cases of canned goods on trailers.

Clark undertook the manufacture of electric battery-powered fork trucks with a conviction that it

could build a better machine than it could find on the market, and at a lower cost. Exclusive initial economies which Clark foresaw and achieved—and which it affords Clark users—resulted from Clark's mass production of both gas and electric machines as well as of most of their major components, and from its unparalleled pattern of parts interchangeability. These are basic advantages immediately apparent to seasoned production men.

It must be equally apparent—that whether Clark's recommendation is for gas-powered equipment or for electric battery-powered equipment, it is based on facts, and is free of prejudices arising naturally out of a one-line approach.

We believe that it will pay you to CONSULT CLARK.

## CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS



CLARK EQUIPMENT COMPANY, TRACTOR DIVISION, BATTLE CREEK 28, MICH. REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD



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## FOR BALL AND ROLLER BEARINGS

Your investment in anti-friction bearings is certainly great enough to warrant your investigating the possible savings to be made through the use of LUBRI-PLATE lubricants. They actually preserve bearing surfaces, arrest progressive wear and protect against rust and corrosion. There are LUBRIPLATE lubricants for all speeds, all operating temperatures and conditions. Write for particulars.

### R FOR YOUR MACHINERY

No. 2 — Ideal for general oil type lubrication, ring oiled bearings, wick feeds, sight feeds and bottle oilers.

No. 8 — Because of high film strength and long life it reflects outstanding performance in most types of enclosed gears (speed reducers).

No. 107 — One of the most popular grease type products for general application by pressure gun or cups.

No. 70 — For a wide range of grease applications, especially at temperatures above 200 degrees F.

No. 130-AA — Known nationwide as the superior lubricant for open gears, heavy duty bearings, wire rope, etc.

**BALL BEARING** — This is the LUBRI-PLATE Lubricant that has achieved wide acclaim for use in the general run of ball and roller bearings operating at speeds to 5000 RPM and temperatures up to 300 degrees F.



**LUBRIPLATE**  
FISKE BROTHERS REFINING CO.  
NEWARK 5, N. J. TOLEDO 2, OHIO

DEALERS FROM COAST TO COAST  
CONSULT YOUR CLASSIFIED TELEPHONE BOOK

# WESTERNERS AT WORK...

(Continued from page 55)

General Electric Corp. add the following to their staff at the Hanford atomic bomb project: H. F. Measley of Richland, supt. of power dept.; Dr. Winston Patnode, a G-E staff researcher; R. C. Robin, head of training for G-E's service personnel, and Rear Adm. W. S. Macaulay, recently retired from the Navy.

J. H. Clawson elected treas. of Puget Sound Power & Light Co.; other officers re-elected.

J. T. Moore replaces V. E. Williams, retired, as Northern Pacific Railroad industrial agent for West end of line. He was assistant to Mr. Williams before his promotion and will headquarter in Seattle.

J. M. White succeeds M. B. Nelson as pres. of Long-Bell Lumber Company, at Longview. He was formerly associated with the Weed Lumber Co., at Weed, Calif., which became the Weed division of Long-Bell in 1926, and became v.p. in 1947. Mr. Nelson is retiring from active duty, as are vice-presidents J. D. Tennant, S. M. Morris, and L. L. Chipman.



J. M. White

Brooke S. Harper, former sales representative, appointed manager of Boeing Service Center at Boeing Field, Seattle, and Rex Delaware named supt. to succeed Edward S. Hudson. Mr. Hudson resigned to accept position as v.p. of Alaska Airlines, to be based at Paine Field near Everett. . . . Robert L. Steward appointed director of engineering and maintenance of Alaska Airlines, Inc., Paine Field.

Arthur Larsen appointed chief inspector for Douglas Fir Plywood Ass'n, composed of firms operating 34 plants in Washington and Oregon; he succeeds George M. Williams, resigned to join staff of American-Marietta Co.'s Seattle plant.

Peter F. Finnigan, Tacoma, appointed employer member of the Washington State Apprenticeship Council, taking place of Budd I. Davis, resigned.

Richard McKay, assistant gen. mgr., Washington Water Power Co., nominated v.p. of American Institute of Electrical Engineers. He will represent the Institute's northwest district.

Harold M. Rudd, pres. of Rudd Paint & Varnish Co., Seattle, appointed a member of the Small Business Advisory Committee to the U. S. Dept. of Commerce.

John L. Locke, gen. mgr. of Fisher Flouring Mills Co., Seattle, named pres. of Millers' National Federation.

Arnold Polson, Hoquiam lumberman, elected pres. of Ass'n of Washington Industries, succeeding Ralph M. Roberg, Bellingham, who became v.p. Other officers are L. W. Eilertsen, Seattle, treas.; Ed (Deke) Davis, Seattle, sec. and managing director; Wylie Hemphill, Corydon Wagner, J. B. Power, Henry L. Coffin, and Neal R. Fosseen named vice-presidents.

Melvin Williamson transferred from Shawinigan Falls, Quebec, to supervise operation of Kaiser Aluminum rod and bar mill to be installed at Trentwood rolling mill near Spokane.

Kenneth W. Walin named mgr. of timber resources for Robinson Manufacturing Company, Everett.

Roy C. Muir heads new nucleonic department to run the Hanford Atomic Works, Richland. D. H. Lauder, former mgr. of plant, transferred to Atlantic district of the General Electric apparatus department.

A. E. Post, San Francisco, succeeds Frank C. Neal, Tacoma, as pres. of Buffelen Lumber & Manufacturing Company, Tacoma. S. C. Pohlman of San Francisco, formerly Western mgr. of Colorado Fuel and Iron Company, becomes executive v.p.

Frank E. Jacquot returns to Tacoma to manage E. I. duPont de Nemours & Company plant at Dupont. He has been with the home office at Wilmington, Del., and succeeds Roy F. Boltz, who transfers to Pompton Lakes works in New Jersey as mgr.

Sunshine Mining Company, Yakima, elected R. M. Hardy, pres.; J. B. Cox, v.p.; C. M. Hull, sec.; Frank M. Hardy, v.p. and treas., and R. D. Leisk, gen. mgr.

Harald Synnvestedt elected pres. of New England Fish Company, Seattle, succeeding A. L. Hager, deceased. Henry H. Goodrich of Astoria elected v.p.

Kenneth A. Knudson of Everett Pulp & Paper Company elected pres. of Purchasing Agents Ass'n of Washington. Frank C. Bergmann succeeds Mr. Knudson as first v.p., with L. C. McIver as second v.p., C. R. Ragsdale as sec. and Russell Wetherell as treas. S. E. Ringheim, retiring pres., becomes national director to represent state organization.

Pacific Northwest Transportation Advisory Board elects H. T. Stoddard, Soundview Pulp Company, Everett, as pres.; A. M. Cloninger, traffic and warehousing, Longview Fibre Co., Longview, v.p.; and R. V. Boyle, Brown and Haley, Tacoma, executive sec.

Lyle Neff, Pasco, elected pres. of Inland Airways, Inc., with Gerwyn Jones, v.p.; Paul R. Roesch, sec.-treas.; and H. Maurice Ahlquist, gen. mgr.

O. E. Erdman, Elma, named pres. of Wishkah Oil Co.; William V. Apple, Aberdeen, v.p., and Earl V. Bracken, Aberdeen, sec.

S. M. Corbell elected sec., Pacific Gamble Robinson Company, succeeding W. A. Yeomans, retired. H. L. Watson named ass't sec.

## Associations Elect

George M. Hansen, formerly associated with Cascade Pacific Lumber Company, Portland, joins trade extension staff of West Coast Lumbermen's Ass'n.

Victor L. Norman, Long Beach independent oil operator, named pres. of California Stripper Well Ass'n.

James F. Bone, mgr. of industrial department of Los Angeles Chamber of Commerce, elected pres. of American Industrial Council.

L. A. Cranston, executive v.p. of Honolulu Oil Corp., elected pres. of Oil Producers Agency of California, succeeding W. C. Whaley, v.p. and mgr. of Barnsdall Oil Company's California operations. R. A. Grant, sec. of Fullerton Oil Co., elected second v.p. . . . Mr. Whaley elected to executive committee of Independent Petroleum Ass'n of America, and C. A. Johnson named v.p. for California.

E. E. Pyles elected pres. and H. F. Owen and C. C. Spicer named v.-presidents of San Joaquin Valley Oil Producers Ass'n.

John K. Northrop, pres. of Northrop Aircraft, elected national pres., Institute of Aeronautical Sciences, succeeding Preston R. Bassett, pres. of Sperry Gyroscope Co. Clarence L. Johnson named v.p.

Robert A. Fulton, Wilson & Geo. Meyer & Co., Seattle, elected president of Pacific Northwest Plastics Association, succeeding Robert H. Anderson, Northwest Plastics Industries. G. Otto Orth, Jr., research chemist with A. J. Norton, Seattle, was elected v.p. Leo Livingston, Pacific Plastics, re-elected sec.-treas.



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## STRAN-STEEL FRAMING MEMBERS IN STOCK LENGTHS

### HERE'S WHAT THEY ARE

Stran-Steel framing members are high-quality strip-steel, factory-punched for pipes, wiring and placing of screws. They may be joined by self-tapping screws or welding. No special architectural problems are imposed. The patented nailing groove of the joists and studs deforms and clinches nails in a grip of steel, so collateral materials can be nailed directly to the framing. Any structure, up to 2½ stories, can be erected quickly and durably with ordinary carpenter tools.

### ADVANTAGES

Rugged simplicity enables expansions and alterations to meet changing needs. Nailing grooves and openings for screws and equipment assure adaptability and low-

cost construction. Steel insures greater stability, ruggedness and long life.

### HERE'S WHERE TO USE THEM

Stran-Steel framing is proved superior for construction of interior partitions, tool cribs, shelving supports, railings, suspended ceilings, loading platforms, duct work framing and other miscellaneous jobs, as well as for industrial and commercial buildings.

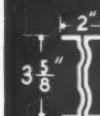
You can save time in construction by stocking Stran-Steel framing members to meet your most likely requirements.

### NOW'S THE TIME TO ORDER!

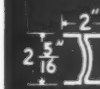
Attach the coupon below to your letterhead for prices on the items you need.



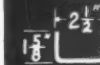
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STANDARD STUD



NARROW STUD



NARROW PLATE

Standard Plate 3 1/4" wide with 1 1/4" flanges

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Please quote prices on the following, for immediate delivery.

Quantity	Gauge	Item	Length
_____	16	2 x 6 JOISTS	14'
_____	"	"	16'
_____	"	"	18'
_____	"	"	20'
_____	"	"	22'
_____	"	"	24'
_____	"	"	26'
_____	"	"	28'
_____	"	"	30'

Quantity	Gauge	Item	Length
_____	16 14	2 x 8 JOISTS	14'
_____	0 0	"	16'
_____	0 0	"	18'
_____	0 0	"	20'
_____	0 0	"	22'
_____	0 0	"	24'
_____	0 0	"	26'
_____	0 0	"	28'
_____	0 0	"	30'
_____	0 0	2 x 9 JOISTS	14'
_____	0 0	"	16'
_____	0 0	"	18'
_____	0 0	"	20'
_____	0 0	"	22'
_____	0 0	"	24'
_____	0 0	"	26'
_____	0 0	"	28'
_____	0 0	"	30'

Quantity	Gauge	Item	Length
_____	16	2 1/4" STUDS	20'-0"
_____	16	2 1/4" STUDS	8'-0"
_____	"	"	8'-0"
_____	"	"	10'-0"
_____	"	"	12'-0"
_____	"	"	12'-6"
_____	"	"	20'-0"
_____	"	"	25'-0 1/2"
_____	"	"	30'-0"
_____	"	3 1/4" STUDS	8'-0"
_____	"	"	8'-4"
_____	"	"	10'-0"
_____	"	"	12'-6"
_____	"	"	20'-0"
_____	"	"	25'-0 1/2"
_____	"	"	30'-0"
_____	"	3 1/4" CHAN'L PLATE	22'-0"
_____	2 1/2"	"	22'-0"

Note: Stran-Steel framing is available in special lengths, if the identical item is ordered in quantities of 11,000 lineal feet or more.

## War Production Boom Stirs Southern California

*Aircraft readying for production; must wait  
for actual Congressional approval of funds*

**L**OS ANGELES—A surge of optimism has swept over the southern California industrial community, originating probably in the belief that gold will be struck shortly in the form of a pocket-edition war production boom.

Surprisingly, most business men here are inclined to discount another potentially stimulating factor, the whittling down of income tax "deducts" from the weekly pay envelope, which few seem to feel will remove many fishhooks from the average spender's pocket.

Free-spending days seem definitely over, thanks to high food prices and the rapidly spreading gray market in rent. Retail sales in this area have been quietly sliding behind last year's high marks—and when dollar sales are translated into quantities of goods, the actual volume of trade has slackened materially. The showing has been poor compared with returns from many eastern areas. A disappointing Easter season for merchants further hints that this area, long the nation's "white spot" in trade activity, has unobtrusively taken on a grayish tinge.

This is not true of one important economic indicator: construction activity, which in the first quarter of 1948 has been running 60 per cent higher than last year. A big carry-over of uncompleted military and naval installations, plus a preliminary trickle of the state's huge reserve funds for postwar highway construction, have combined to give California annual construction totals bigger than those for any major geographic division in the U. S. except, of course, the Pacific division, of which it is part.

Native sons are used to seeing acres of new homes sprouting overnight in approved California "whopper" tradition. For many months, the state has accounted for more than 10 per cent of the nation's

residential construction, topping the combined totals for the second and third-ranking states, New York and Texas. But only now, at long last, are housing units beginning to go up in numbers big enough to compensate for the seemingly endless flood of migrants from the east.

Security First National Bank figures that new homes started in Los Angeles County during March would provide accommodations for 25,000 people. This is about twice the current rate of net population growth, which the bank estimates at about 12,000 persons a month.

With housing finally starting to catch up with population, a powerful stabilizing influence is coming into play. So long as thousands of people in this area are living out of suitcases, uncomfortably doubled up with relatives or making shift in motels, converted garages, and hen houses, an unwholesome atmosphere of uncertainty is bound to be in the air. Chronic housing pains are no proper background for an area which aspires to take on an impressive load of war production contracts; that much is a well-learned lesson of the past war.

Now that the aircraft industry's nearly bare cupboard is to be restocked with enough military orders to assure a good many square meals, local industrialists are wondering just how much of a banquet will be provided for home-town plants, and how far down the table the dishes will be passed toward the subcontracting fraternity at the foot. Aircraft men know that while the big air force bill steam-rolled through Congress with surprising speed, it still needs much dotting of i's and crossing of t's. Little has been determined, publicly, at least, as to just how many transport planes will be needed. How much work will be placed on the Coast, now that the shadow of the atom

bomb darkens all planning, remains to be threshed out after weighing of many factors.

Dispersal of aircraft production might as well be considered a foregone conclusion, that much has been made plain by the Air Policy Commission's recommendations. As a matter of course, "shadow" plants in the Midwest will be opened on at least a token scale, to restore somewhat the well-planned dispersal pattern achieved during World War II. The higher costs of operation will be considered as insurance against unexpected attack, and well worth the price.

Strings may well be attached to heavy bomber contracts, making sure that no one plant, and no one geographical area, figures so prominently that an atomic bomb attack could paralyze our output of this type of craft. Word that Boeing already has reopened its Wichita plant with 1,000 employees for the immediate purpose of converting B-29 Superfortresses has caused rumors to fly that Douglas soon may resume production at its Oklahoma City plant.

Without actual commitments, backed by Congressional approval of funds, aircraft makers can do little toward actual production. They are doing much, however, in the way of planning and make-ready. Engineering departments are being strengthened, skilled men recruited for the initial steps in tooling up, space arrangements made.

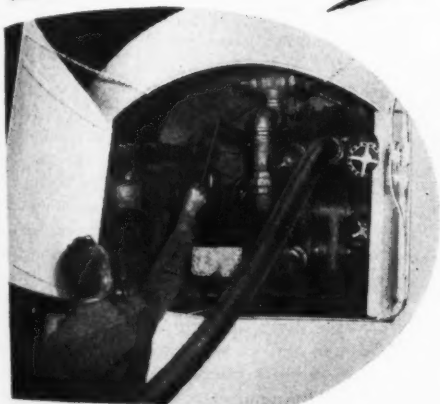
Los Angeles County has been asked to give up its short-term lease on 10,000 square feet of storage space owned by Douglas Aircraft and is moving large quantities of structural steel outdoors under emergency cover to make way for expansion of North American's jet bomber production lines. The Navy has

*(Continued on page 60)*



# "SUGAR by the Gallon"

**RIDES BY TRUCK-TRAILER**



**Canners, preservers, bottlers, confectioners, ice cream manufacturers,** and other Southern California users of liquid sugar supplied by Western Sugar Refinery, a division of J. D. and A. B. Spreckels Company, now get deliveries by Fruehauf Tank-Trailer. A standard delivery load of 3000 gallons results in economies to both the sugar user and the supplier.

**The Trailer is a Fruehauf** with the new revolutionary Gravity Tandem Suspension — with torsion bars instead of leaf springs — the most modern, most economical tandem under-construction on the road. It doubles or triples tire life. The Trailer has an Automatic Coupler. Coupling and uncoupling time is cut. Supports lower and lock in place automatically as the tractor is disengaged. They raise as the tractor is coupled. Coupling is safer — driver does no hand cranking. Less parking space is required.

**The tank has two compartments** — one 2,500 gals. and the other 1,000 gals. To facilitate discharge, it is equipped with a fully enclosed gasoline engine pump unit.

**Fruehauf is prepared** to design and build Tank-Trailer units for hauling liquid food products of any nature — syrups, vegetable oils and fruit juices, etc. Fruehauf also builds a complete line of Van Trailers, including refrigerators, platform or any other type you may need.

**There's a Fruehauf Trailer built for every hauling need. Call your nearest Factory Branch for complete details.**

*World's Largest Builders of Truck-Trailers*

## **FRUEHAUF TRAILER COMPANY**

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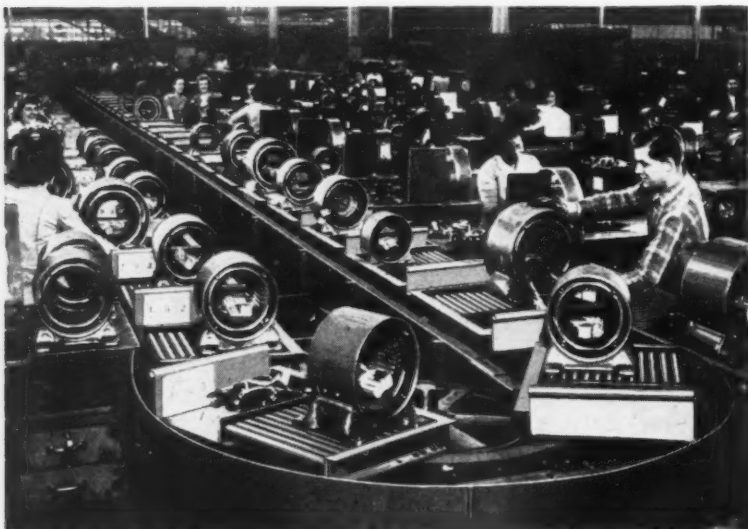
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TRANSPORTATION"**

*Fruehauf Trailers*

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(Continued from page 58)

taken over from RFC the government-owned half of the Douglas El Segundo plant, a "paper" move not immediately bearing on the plant's present operations at about 30 per cent of its wartime level.

Northrop is stepping up output of the B-35 Flying Wing and is getting under way on an order for its three-engined Pioneer, redesigned as a military light assault transport. At San Diego, Solar has received another \$3,000,000 in orders for jet engine components, and Ryan has alleviated its shortage of men for riveting and allied jobs by calling back 10% of its former women employees.

During round table discussions at the recent Air Policy Conference here, some industry men opined that West Coast air-frame plants should be given a good share of the assembly work, but that subcontracting might be widely dispersed so as not to overload the local manpower supply. This point of view is challenged by others who argue that such lengthening of supply lines is precisely what enabled Allied bombers to paralyze German V-2 rocket production by cutting off the flow of components. They remember well the furious days here when aluminum castings were rushed across town, almost smoking hot, to save minutes in delay between subcontractor and assembly plant.

To this argument, others retort that if auto fenders and miscellaneous components can be flown nowadays from Detroit overnight to keep local production lines rolling, the less bulky components of aircraft likewise can be delivered by air from widely scattered points.

Placing prime contracts in the Midwest or Rocky Mountain area will not completely relieve southern California of a tightening up in the supply of skilled manpower. Obviously the first thing major companies will want to do in reopening "shadow" plants will be to strip the home factories of enough lead men and the nucleus of a working force to set up production lines.

Fortunately, from an aircraft standpoint, Los Angeles is now a "loose labor area" as a result of continual layoffs during the past year. There is a further substantial pool of potential manpower available if need be, for other local industries are employing thousands of aircraft plant alumni, many of whom could easily be attracted by a slight differential in pay. Unemployment has been growing recently among unskilled workers here, indicating a source of additional manpower that could be developed through training programs.

These facts, plus existence of several thousand manufacturers with experience and the equipment for making specialized accessories—which account for about 40 per cent of the cost of an airplane—tend to indicate that the general wartime pattern of the industry here will be preserved.

(Continued on page 99)

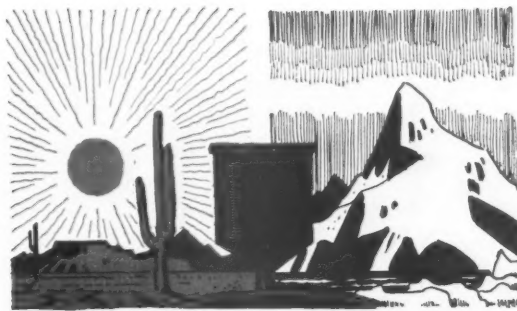


# Simplify Your Lubricating with ALL-PURPOSE UNOBA GREASE

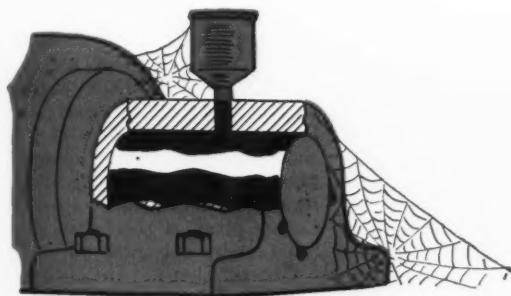
## Resists both heat and water!



**1.** UNOBA is the first all-purpose grease in history that resists *both* heat and water. That's why you can greatly simplify your lubrication with UNOBA—for it performs the jobs that formerly required *many* different types, grades and brands of greases!



**2.** All-purpose UNOBA is a barium base grease with exceptional heatproof, waterproof qualities. Boiling water or dry heat won't cut its tenacious film. UNOBA will give maximum lubricant protection at temperatures from much below freezing to over 300° F.!



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**4.** Today UNOBA is performing hundreds of different lubrication jobs in all branches of industry—in factories, mines, mills and on construction jobs. Why not simplify your lubrication with this unique all-purpose grease? UNOBA saves you time and money!

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## Industrial Water Supply Problem Must Be Studied

**Northern California recognizes need for providing ample supply at cheap rates for further industrial development**

**S**AN FRANCISCO — Developing an industrial water supply is coming to the fore as a basic necessity in attracting new types of manufacturing into northern California, particularly the San Francisco Bay area. The first preliminary steps are being taken to explore the possibilities of providing millions of gallons daily for manufacturing concerns who must be granted rates in the neighborhood of 6 cents a thousand gallons in order to exist, rates which are far below those paid by domestic consumers.

A million new residents have come into the 12 San Francisco Bay region counties since 1940. Meanwhile, water consumption has increased from 75 gallons a day per capita in 1930 to 100 gallons daily, with indications that per capita consumption will reach 120 gallons a day by 1965 and 140 gallons by 1980. This is considerably due to industrial development, nearly \$300,000,000 worth of such projects having been reported since the end of the war.

The state has a long history of brilliant planning for development and use of water for agricultural and municipal purposes, but industrial water is a different proposition. The State Division of Water Resources, whose function now is confined to agricultural water supplies, is being urged by the State Chamber of Commerce, San Francisco Chamber of Commerce and other bodies to make studies with a view to proposing legislation that will enable the state government to handle industrial and domestic water problems also.

One of the first aids to industry would be execution of the domestic and industrial supply features of the Central Valley Project, which have been obscured by the violent controversies over the agricultural and electrical power angles of the project. Proponents of the Reber Plan for making the northern and southern ends of San Francisco Bay fresh water lakes and filling in much of the tidelands believe that their

project would be tremendously helpful. Its opponents, on the other hand, insist that it could be a water-consuming rather than a water-conserving project. The San Francisco Chamber of Commerce is advocating a study of the Reber Plan to see whether it would fit, wholly or in part, into the industrial needs of the Bay Area.

Another source of supply to which considerable study is being given is the reclamation of sewage and the treatment of waste water from oil refineries, chemical plants and fruit and vegetable canneries. The question remains to be solved whether this can be done economically, for 5 cents a thousand gallons treatment expense added to a base cost of 6 cents for the water would make the final cost to the consumer entirely out of the question.

A committee from the lower house of the state legislature chairmanned by Randal Dickey of Alameda has been investigating the water pollution question for some time. It has had several brushes with the California Manufacturers Association, which has charged Assemblyman Dickey with refusal to allow a representative of the CMA technical committee on water pollution to testify or speak before the legislative committee, and requiring him to send in his report by mail.

Still another possibility for an industrial water supply is the reclamation of sea water, through the use of atomic energy or some other method. It is understood that some thorough investigations along this line are being made by scientific men.

Considerable late rainfall which added to the snow pack in the mountains seems to have banished all danger of shortage of irrigation water for this season, and all restrictions on the use of electricity by the California Public Utilities Commission have been removed.

Automobile assembly operations in northern California, heretofore confined to Ford and Chevrolet cars and trucks and heavy-duty International trucks, now in-

clude Dodge cars and trucks. On May 4 Chrysler Corporation opened a plant in San Leandro adjacent to the corporation's parts plant, having nearly 300,000 square feet of space. Plymouth and DeSoto assembly will be concentrated at Los Angeles.

Capacity of the San Leandro plant is approximately 150 passenger cars and 80 trucks on an eight-hour basis, with approximately 800 men employed. At the outset only trucks are being assembled. L. L. Colbert, president of the Dodge Division of Chrysler, came out from Detroit to conduct the official opening. Others with him were Fred J. Lamborn, vice-president and general manager; L. J. Purdy, vice-president in charge of trucks; E. C. Quinn, general sales manager; E. P. Lamb, chief truck engineer; George A. Orphal, assistant director of truck sales, and Ray Ayer, sales supervisor. John P. Mansfield, formerly Dodge Los Angeles regional manager, and previously with the Detroit plant, is general manager of the San Leandro operation.

General Electric is reported to be contemplating adding the manufacture of fluorescent lighting to its incandescent lamp factory in Oakland. F. M. Falge, GE district manager, insists that it has not yet reached the concrete planning stage.

Warehousing and distribution of 40,000 Armstrong tires a month will become a new Port of Stockton activity, Elmo E. Ferrari, assistant port director, announced.

The Armstrong Tire and Rubber Company, who have offices at West New Haven, Conn., and branch plants at Des Moines, Iowa, and Natchez, Miss., have completed a deal with port officials whereby the port will become the sole distributing point of these tires for eleven Western states.

The first collapsible tube manufacturing plant on the West Coast is now in production. Victor Industries Corporation of California, subsidiary of Victor Industries

(Continued on page 64)

# 3

## STEEL MILLS

### working for Western Industry

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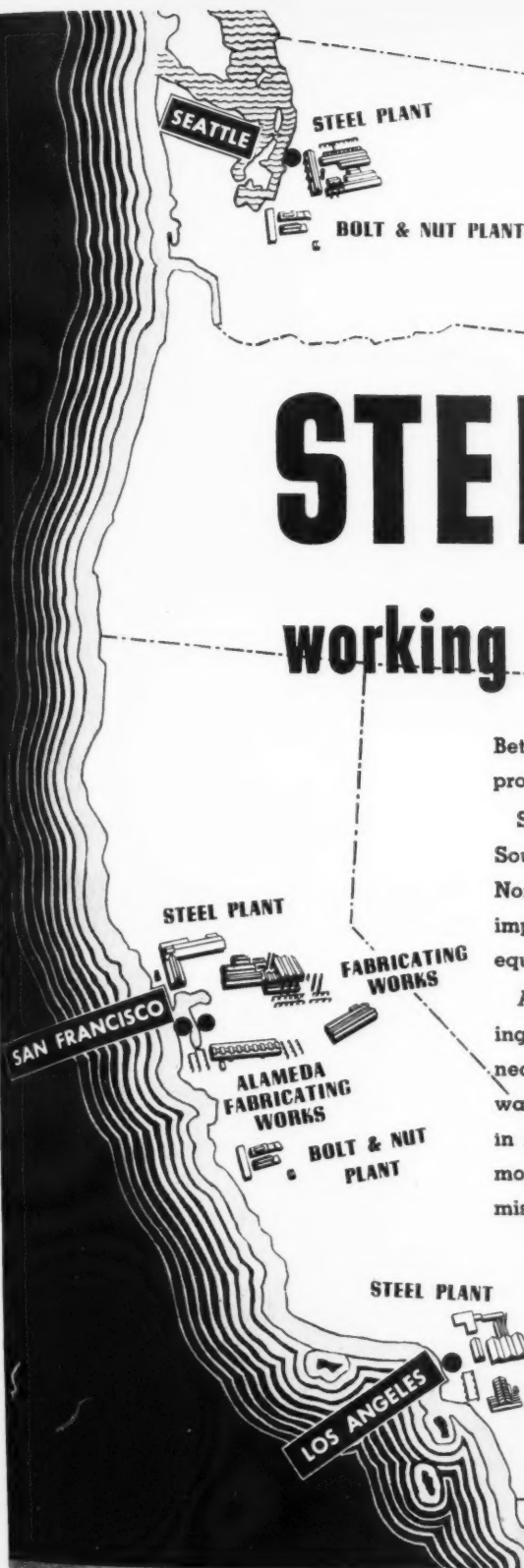
All of these Bethlehem Pacific plants are constantly improving their methods and adding to their facilities. In this connection a far-reaching expansion program is now well under way. When completed this will mean a substantial increase in present capacities and will provide more materials for more builders, fabricators, manufacturers, railroads, and miscellaneous steel-consuming industries.

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## Industrial Water Supply

(Continued from page 62)

Corporation of Brooklyn, N. Y., have completed the installation of \$250,000 worth of machinery and equipment at Chico for extruding small aluminum slugs into tubes for such items as toothpaste, shaving cream, glue, and even food, oil, and grease. They are installed in one of the buildings originally built for the Chico Army Air Base, recently acquired by the city of Chico for use as its Municipal Airport and for new industries in the area.

Harry Pierce, plant manager, gives two reasons for establishing the new Chico plant — lower freight costs and better service to customers. Collapsible tubes shipped 3,000 miles from New York suffered a terrific mortality rate during the 13 to 15-day trip by rail and this made adequate service to the West Coast a difficult and costly business, he points out.

Initial output will be 80,000 to 85,000 tubes a day, ultimate rate 150,000 to 175,000.

## Pep Up Peppermint

Washington State College agricultural experiment station has received a grant of \$19,500 to be spent during the next three years in research to improve the yield and quality of peppermint oil grown in the Northwest.

## Favors Wheat Starch

Development of a wheat starch industry in the Pacific Northwest is recommended by Dr. G. E. Hilbert, director of the northern regional research laboratory at Peoria, Ill. He urges a single large plant with a daily capacity of 10,000 bushels or more utilizing all of the byproducts of wheat and capable of consuming 15,000,000 bushels of wheat annually. Another million bushels might go into the manufacture of alcohol for industrial and beverage purposes.

## More Power For Pacific Northwest

Installation of the last generating unit in the left power house at Grand Coulee dam has been completed and the unit placed in operation slightly ahead of schedule. Rated capacity of generating units at Grand Coulee is now second only to Hoover dam and stands at 992,000 kw.

Major construction contract was let during April for the construction of Hungry Horse dam in northwestern Montana. When completed, the power house at this structure will provide an additional 312,000 kw. of generating capacity for the Northwest, but most important, the upstream regulation provided by the dam will permit the generation of about 700,000 kw. additional power by downstream plants such as Grand Coulee, Rock Island, McNary, and Bonneville.

## Associations Elect

J. H. Kitlar, Tacoma, named v.p., Northwest Furniture Manufacturers' Ass'n; Ben Rosenfeld, Portland, sec.; J. H. Gilpin, Tacoma, treas., and Jack O. Lynch re-elected pres.

C. W. Dieterich, Tacoma, named managing director of Southern Plywood Manufacturers Ass'n and will institute industry-wide testing of panel products as a product-betterment plan of the organization. Mr. Dieterich was for several years inspector for Douglas Fir Plywood Ass'n.

B. W. Shipman, Los Angeles, and Charles Alhadeff, Seattle, elected regional vice-presidents of National Fisheries Institute.

Lester Farrish, Lincoln, Wash., elected pres. of Intermountain Logging conference, succeeding J. I. Morgan, New Meadows, Idaho.

American Society for Metals names Ben Berlien, Industrial Steel Treating Company, as chairman; I. R. Leheney, Allegheny-Ludlum Steel Corp., vice-chairman; H. E. Krayenbuhl, Oliver United Filters Company, sec.; Frank B. Drake, Johnson Gear and Manufacturing Company, treas.

Grant Dixon, Jr., Exchange Lumber and Manufacturing Company, Spokane, named pres. of new Northwest Wood Products Clinic. Eri B. Parker, division of industrial research, Washington State College, Pullman, will serve as sec.-treas.

American Steel Warehouse Ass'n, San Francisco chapter, re-elects the following: James D. Taylor, pres.; Paul Childs and George W. Boole, vice-presidents; Harry Levitt, sec.; Willis Kyle and Hill Bain, chapter directors, and James D. Taylor, national director.

Utah Coal Operators Ass'n elected the following officers: Pres., A. P. Cederlof, gen. mgr., Peerless Sales Co.; v.p., S. J. Craighead, v.p. and gen. mgr., United States Fuel Co.; exec. sec., B. P. Manley. Mr. Cederlof succeeds Walter F. Clarke.



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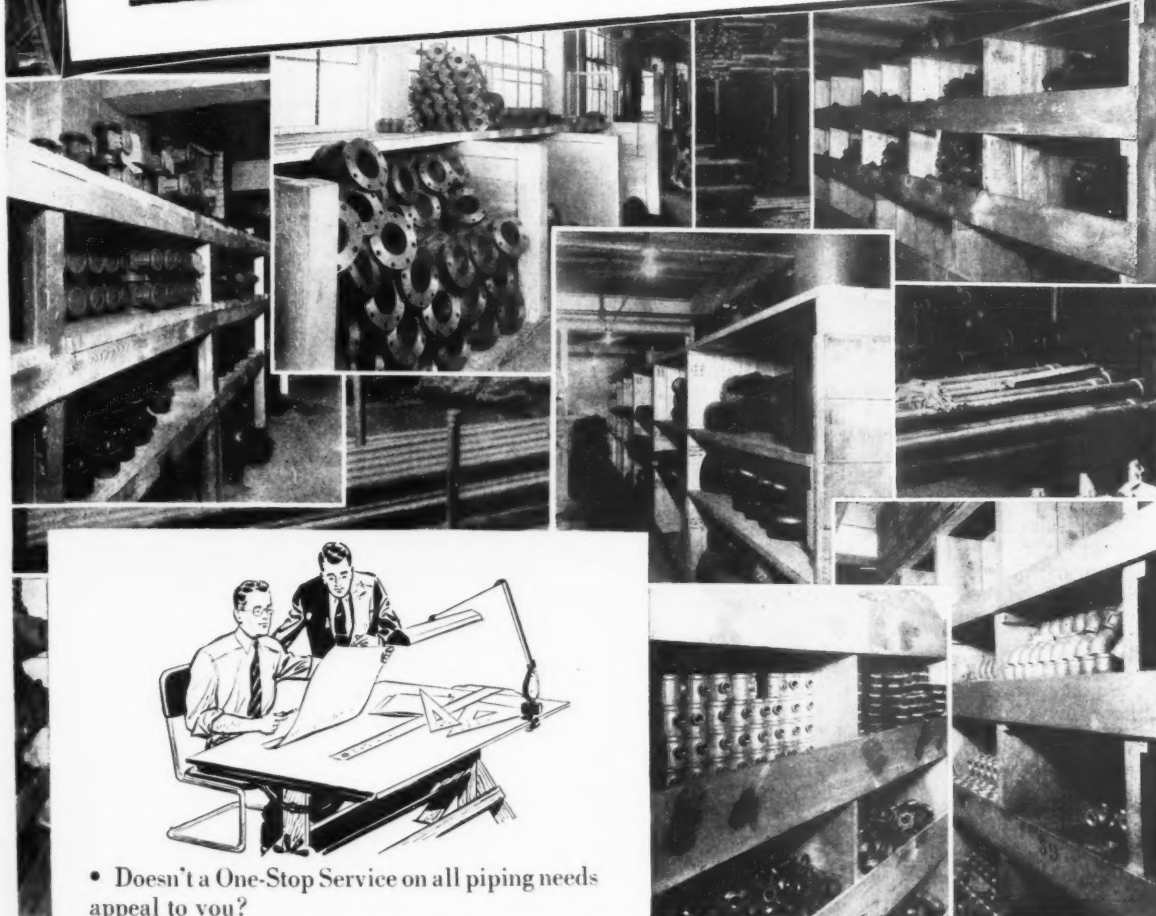
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## REGIONAL REVIEWS

### CONTINENTAL DIVIDE

# Southwestern Business Finds Rockies Land of Promise

**Despite more alert look of southwestern towns; demand is for new money of mountain states**

**D**ENVER — Oklahoma and Texas cities, like Kansas City, Omaha and the Twin Cities (Minneapolis and St. Paul), are reaching out with eager fingers to clamp a firmer grip on the parts of the Rocky Mountain area which fall most logically within their commercial spheres of influence.

On a swing through Kansas and Oklahoma, the visitor notices bustling activity in Wichita, Tulsa and Oklahoma City that seems to make the mountain states look old and dull by comparison. There is a newer look in any of the three cities mentioned than to Denver, Salt Lake City or Casper. And yet the alert businessmen want to reach out and do more business with the mountain states area and seem to feel that they have found the land of promise out where the Continental Divide is almost in plain sight.

Denver and Casper present the paradox of the times — cities bursting with new population, new money, new enterprises, and yet nothing new on the skyline and seemingly little outward manifestation of the great ferment going on within. Both places, right now, are what anyone would call "good business towns." And yet there is that tired look about them, as if to say that the last millionaires left a long time ago and the new ones haven't had time to start spending their money because they're still too doggone busy making it.

#### No Need For Doherty

When Henry L. Doherty left Denver, barely one jump ahead of the sheriff, he had formulated his scheme for putting utilities companies together out of all sorts of odds and ends that seemed to have little or no value independently. The whole nation was to marvel as his Cities Service empire multiplied itself into one of the industrial giants of the 20th century. SEC began to whittle it down some years ago, and part of the result was the severance of the Public Service Company of Colorado from the Doherty clan. Now it appears to have been a good move, at least for the stockholders. Outwardly there has been little change, as the employees and

most of the officials have remained in their usual positions.

But the current report of President John E. Loiseau is a heartening one for the 14,665 stockholders of whom 5,106 live in Colorado and Wyoming. The net earnings increased to \$4,536,113 for the year 1947, with gross revenues up 13.7 per cent over 1946. Gas revenues zoomed upward for a gain of 30.7 per cent. Electric revenue made a relatively sober gain of 5.4 per cent. Operating expenses went up 18.6 per cent, reflecting the increased cost of coal, labor and materials.

But the best part of Loiseau's report was not in the figures. He told of new franchises won in Denver, Cheyenne, Fort Collins and other thriving communities. Equally encouraging, the company's source of natural gas was bolstered mightily by completion of a new big-inch pipeline from the Hugoton field (world's largest) in southwestern Kansas. Refinancing brought the company improvements in its capital structure and yielded about \$9,000,000 for plant improvements. The largest construction program in the company's history took \$12,000,000, plus \$1,136,615 for retirements. Huge new electrical generating units were installed in areas crying for more power, with the first \$7,000,000 already spent on the \$37,000,000 construction program. The new Arapahoe generating plant in south Denver will cost \$14,000,000. It will burn both coal and natural gas, like the company's Lacombe and Valmont plants.

In this company's ruggedly strong position is the region's answer to the questions concerning the future. It spends money to make money, and there seems to be no hesitancy or questioning about the soundness of the area it serves. And who are the men in the Public Service Company of Colorado? Who, one might better ask, isn't in it? Heading the list of the directors is Claude K. Boettcher, than which there is no whither up and down the entire Continental Divide, industrially speaking. Other directors: Arthur H. Bosworth, Gaylord B. Buck, Clarence J. Daly, Guy

W. Faller, William H. Ferguson, Paul W. Lee, Loiseau, T. E. McClintock, Frank T. Parks, Frank H. Ricketson, Jr., William E. Russell, and William C. Sterne, all of Denver; W. C. Kurtz of Grand Junction, Herbert C. Evans of Boulder, and Charles J. Ohnhaus of Cheyenne, Wyo.

#### No More Stoop Labor

Mechanization of the beet sugar industry is the biggest news of the postwar area in the agriculture of the mountain-and-plateau area. And there are a great many new machinery manufacturers in the picture, reflecting the enterprise of various individuals who saw the need for mechanical equipment for beet culture and harvesting. Some of the big implement companies are in the picture, strong. Some of the enterprising newcomers are fascinating stories, examples of how The American Way is working today just as it has been working since the days of the first cotton gin, mechanical harvester and motor truck.

Torrington, Wyoming, sits in a pleasant portion of eastern Wyoming where the North Platte River provides water for extensive irrigation. Here is a factory turning out mechanical sugar beet pullers, providing an \$8,000-a-month payroll and supplying the machines to many states including far-away New York. Julius Sishc (yes Sishc) farmed for 30 years before he began making implements to simplify the task of raising sugar beets. The Torrington plant of the Julius Sishc & Co. turns out beet loaders, harvester, sod breakers, soil pulverizers, chisels, packers and drills. He has an iron foundry down the river at Gering, Nebraska.

Julius and his son, Chet, spend their time tinkering and inventing improved machinery, letting others look after the books, selling and other non-mechanical sides of the business. Some of the most ingenious equipment used in his plant was devised by Julius Sishc when he couldn't obtain proper machinery to accomplish his purpose. He is an exponent of the theory, "I'll find a way — or make one."

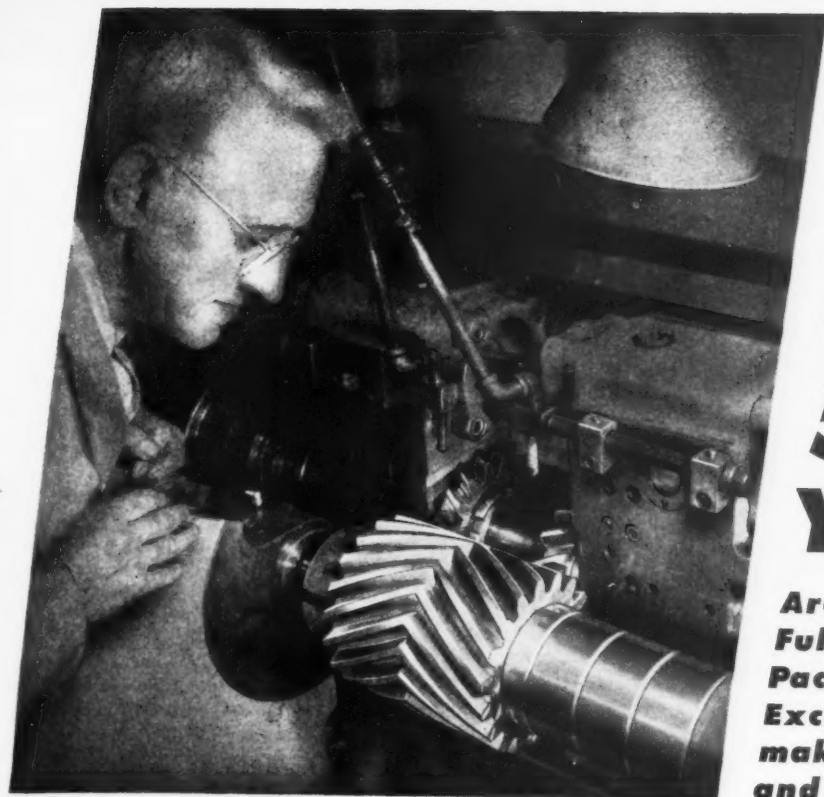
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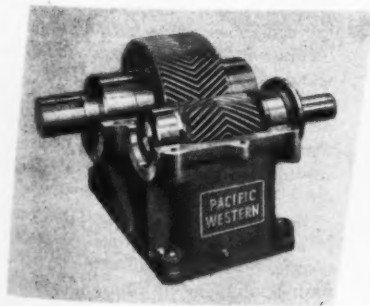
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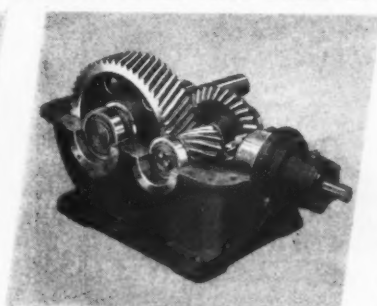
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**Vertical Speed Reducer**



(Continued from page 66)

### "Progress" Finds Northwest

Northwest Colorado's industrial potential is terrific, as revealed by the second issue of *Progress*, publication of the Colorado Resources Development Council. The region's most active petroleum area, Rangely field in Rio Blanco county, comes in for its share of attention, featuring the \$5,000,000 gas treatment plant now building as well as the second major pipeline outlet, this one to Standard of California's new refinery at Salt Lake City which is to be finished by fall along with the pipeline.

In addition to oil development in the Uinta Basin of northwestern Colorado and

northeastern Utah, the region has many other industrial cards up its sleeve.

With Craig the center of the nation's leading woolgrowing enterprise, this spot seems a likely one to put in wool scouring and processing plants when and if this most obvious need is attended to. Last year Moffat county, Colorado, produced more than 4,000,000 pounds of wool, worth nearly \$2,000,000. Some of the region's finest coal is produced in Routt county, and the whole area is tourist-conscious with winter sports facilities being developed at Steamboat Springs and the whole area already famous as a mecca for summertime vacationists. Industrially, it

still is very backward, but its potential is enormous.

### Do It the Quick Way

Once in a while one of those people you see standing in droves around road construction projects comes up with a bright idea. When Luke Smith of Denver went to work for the U. S. Forest Service in 1911 he soon found himself building roads, and he went on doing just that for the old Bureau of Public Roads. Building roads in out-of-the-way places often called for equipment of a sort that just wasn't to be had, so Luke Smith took to improvising. He devised a power shovel mounted on a truck chassis that proved to be amazingly handy, powerful and versatile. That was in 1922.

Two years later he left his government job to manufacture his truck shovels, having them made at the General Iron Works in Englewood, Denver suburb, where half a dozen manufacturers have their heavy machine work done. During the war the Quick Way Truck Shovel Company sent 2,200 power shovels to military establishments all over the world. Some were captured by the Japanese at Singapore and used against the allies during the rest of the war at various battlefronts in the Pacific.

A postwar model mounting a quarter-yard shovel on a one-and-one-half-ton truck chassis has been going like hotcakes, with more than 1,000 in use already. Most of Luke Smith's power shovels are bigger, with a shovel handling four-tenths of a cubic yard on any standard five-ton truck. At present the plant puts out four Quick Way truck shovels a day and recently stamped No. 5000 on one big bruiser that went right out and chewed a hole in a mountainside, just to celebrate.

### Crafts vs. Smokestacks

Again Denver is debating the old question of the sort of industries to attract. Charles E. Brokaw, regional director of the U. S. Department of Commerce, thinks Denverites are waiting for something to happen in Denver that just isn't going to happen, ever.

"Trouble is," Brokaw declares, "too many people still think of industry in terms of belching smokestacks. That sort of industry Denver doesn't want and doesn't need. Denver's hope is to become the center, as she is becoming the center, of craft industries. Denver and Colorado should profit by the example of Switzerland, whose economy is founded on highly developed craft industries—an economy which is much more likely to weather a severe depression than the smokestack kind."

Brokaw pointed out that Denver already is selling nationally or internationally such commodities as fine machine tools, photo-flash equipment, fishing and other sporting goods equipment, agricultural implements, mining machinery, leather goods,

(Continued on page 98)



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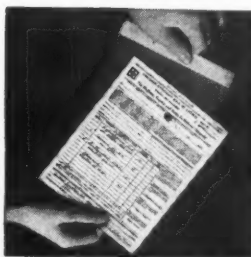
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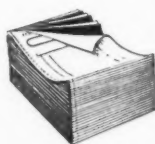
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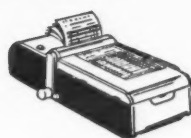
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## REGIONAL REVIEWS

### THE PACIFIC NORTHWEST

# Wood Products Clinic Stresses Lumber Processing

**Organization now on permanent basis; purpose is to develop and distribute wood products**

**P**ACIFIC NORTHWEST—Dedicated to the theme of better uses for all wood, the third annual meeting of the Wood Products Clinic was held in Spokane in April under the joint sponsorship of the timber products bureau of the Spokane Chamber of Commerce and the Institute of Technology of Washington State College. In a change of tactics from the previous two meetings the program was somewhat more sharply focused on specific problems rather than attempting to cover the entire broad field of wood utilization.

Organization of the clinic itself was for the first time placed on a permanent basis. In adopting a formal constitution the name of the organization was extended to Northwest Wood Products Clinic, and three objectives were specified for the organization: (1) To promote better utilization of wood by existing wood-using industries and to develop new uses for wood by affording an opportunity for interested individuals to meet regularly and discuss equipment, raw materials supply, production, marketing, and other problems common to wood users; (2) To provide a medium for distribution of information on wood utilization; and (3) To develop public and industrial recognition of wood as an industrial material, thereby advancing the wood-using industries to their proper niche in respect to other industries.

In setting up the permanent organization considerable care was exercised to provide that the clinic operate as an industry organization, being maintained by the wood using industries for their benefit. Grant Dixon, Jr., of the Exchange Lumber and Manufacturing Co., was elected to the post of president, and Dr. Eri B. Parker of the division of industrial research, Washington State College, Pullman, was elected secretary-treasurer. A board of nine directors was elected. Six of the directors represent various industrial organizations, two schools of forestry at state universities, and one the U. S. Forest Service.

At a joint luncheon of the Northwest Wood Products Clinic and the Spokane Chamber of Commerce, Kenneth P. Davis, dean of the college of forestry at Montana State University, outlined some pertinent considerations of the lumber industry's future development. Speaking primarily of the Inland Empire area where pine species

**PORTLAND**—Industrial expansion in the metropolitan area during the month of March included the establishment of 11 new industrial plants representing a capital investment of \$567,000.

Pioneer-Flinkote Co. made the first shipment of roofing from its new plant, and held a formal opening ceremony. Plans are now under consideration for the addition of a felt mill adjacent to the roofing plant.

Portland Plywood Co. has been organized to take over the war-built plant of the Portland Spar Co. A major expansion program has been undertaken to permit production of plywood to begin by the end of this year. Annual capacity is expected to be about 36,000,000 square feet per year.

predominate, Dean Davis predicted that the cut of Ponderosa and white pines would have to be decreased because of present overcutting above the allowable sustained yield, and that dependent industries would have to make an adjustment to meet the smaller cut.

"To meet the demands of the future," said Dean Davis, "the industry must cease to be a lumber industry as such, and become a using and processing industry with the widest possible flexibility and scope, geared on one side to the productive capacity of the forests and on the other to sound industrial development of the region which must proceed on many fronts of which the wood using industry is only one."

During a discussion of lumber standards, the lumbermen heard an old and oft

repeated complaint from an architect who referred to lumber dimensions in somewhat scornful tones. The argument between architect and lumberman on this point is by no means new, and certainly both sides are able to justify their stands with reasonable advantages. Some of the architects' recent criticisms indicate that the lumber industry might do well to re-study a few of the complaints, and a recent news release from the West Coast Lumbermen's Association indicates that this is actually being done.

In a part of his statement the architects' representative stated his belief that the two-foot unit length, accepted as standard by all of the lumber industry, is neither desirable nor necessary, and in many cases random lengths would serve the building construction industry as well as standardized unit lengths. Present lumber standards result in an average of 5 to 10 per cent waste on building projects.

At almost the same time that this statement was being made in Spokane, H. V. Simpson, executive vice-president of the

**SEATTLE**—Industrial expansion in the metropolitan area during the month of March included the establishment of six new industries, replacement of facilities by one, and expansions by five industries, all involving a capital expenditure of \$3,960,000.

Morley Magnesium Foundries, Inc., with a newly established plant at Renton is in limited production as the only magnesium foundry in the state. When planned production facilities are completely installed the plant will have a production capacity of about 40,000 pounds of magnesium castings per day.

Eagle-Picher Co., Cincinnati, Ohio, and Northwest Lead Co., Seattle, have formed a new venture for the manufacture of lead oxides and allied products. Associated Lead & Zinc Co. will erect a new plant on Harbor Island where supplies for storage battery and paint manufacturers will be produced.

(Continued on page 72)

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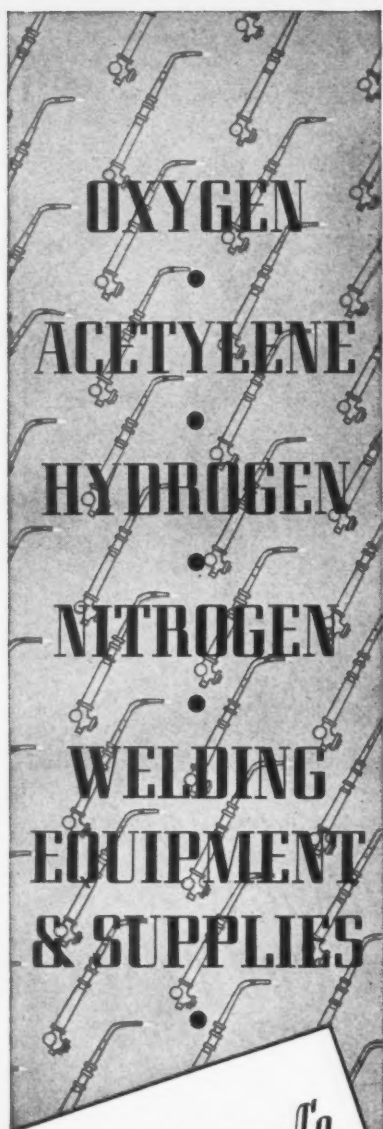
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always ready and able  
to serve you well.

West Coast Lumbermen's Association in Portland, was issuing a detailed statement on the same subject and entitled, "Is the Odd Foot the Right Foot?" In this instance industry apparently is in agreement with the architect, although the distribution and transportation services may not be inclined to agree with either.

Presenting the facts derived from a study undertaken as a result of condemnatory resolutions aimed at odd foot dimensioned lumber by a number of retail asso-

**SPOKANE** — Production of ferro-silicon at the former magnesium reduction plant near Mead is expected to be underway by June, according to plans of the Chromium Mining & Smelting Corp. Immediate operations are expected to be limited to one of the four furnaces because of a lack of power. Ferrochromium production will probably be undertaken as soon as ore and power are available.

Columbia Gypsum Products, Inc., has announced plans for the erection of a gypsum pulverizing plant here to process Canadian rock into agricultural soil conditioner. Erection of a plaster production unit, and a wall board mill are also included in the company's plans for this area. About \$750,000 is to be expended on the new plant.

ciations, the WCLA statement concludes that a reasonable number of odd length pieces would actually reduce the amount of on-the-job work required rather than being not acceptable in most residential construction.

The WCLA survey consisted of measuring the actual pieces of lumber used in the framing and sheathing of three typical housing units in Portland. In a five-room unit 1,556 pieces of lumber were used, of which 315 pieces should have been cut from odd length lumber. An additional 579 pieces could have been cut from either even or odd lengths. By this yardstick about 20 per cent of the pieces should have been in odd dimensioned lumber with a resultant saving in work and waste on the job. A total of 58 per cent of the pieces could have been or should have been cut from odd dimensioned lumber.

To quote some of the examples given by way of illustration, the five-room unit included two 6 by 8-inch beams, one of which was 16 1/4 feet long, the other 16 feet by 5 inches long. These should have been trimmed from a 17-foot length; instead they were trimmed from an 18-foot beam. Twenty-seven pieces of 1 by 6-inch sheathing were 12 3/4 feet long and should have been trimmed from a 13-foot piece instead of the 14-foot board which resulted in the waste of 18 board feet in this one operation alone.

Speaking of the same situation in board feet, the use of odd dimensioned lumber would have been advantageous for 29 per cent of the lumber volume, and could have been used with no particular difference for an additional 12 per cent. Mr. Simpson, in his announcement, goes on to

comment that the manufacture of odd length lumber is not new, but Douglas fir mills in British Columbia have been required to supply as much as a third in odd lengths in shipments to Europe for some 10 to 12 years. Although the mills adopted the practice with great reluctance, it has since been found that recovery from the log is greater; more lumber goes into the market and less into the burner.

Among the complaints of the architects against present lumber manufacturing standards was the tendency which has developed in recent years to surface four sides of structural timber. It was pointed out that surfacing of all four sides reduces the load bearing capacity by about 20 per cent and increases the cost.

The growing movement toward modular construction was pointed out as a factor which was leading away from the use of timber as a building material and increasing the substitution of metal and plastic materials. Odd dimensions resulting from the saw kerf, resaw, and surfacing operations are difficult and wasteful to use in the modular system of design.

Metal building materials salesmen are offering services far in excess of those currently being supplied to builders by timber products salesmen, and are using this as an additional lever to gain a stronger hold in the field. Some complaint was made concerning a shortage of over 16-foot timbers. This was attributed to a growing tendency on the part of Inland Empire loggers to standardize on 16-foot logs. It was pointed out that a plentiful supply of longer lengths is available on the western slope of Oregon and Washington.

Another session of the Northwest Wood Products Clinic brought out with some emphasis the difficulties facing the box makers of this area. During the war the tremendously increased needs of the military services resulted in the establishment of more shook producers than are able to operate economically in normal times. The same war-born emergency also brought about rapid improvement of the fiber box and established it as a stronger competitor.

Since the end of the war conditions have become progressively worse for the box manufacturer with the result that it is one of the first segments of the timber industry to feel the effects of a recession. Labor, timber, and transportation costs have all contributed to increase the costs of the shook producers. Labor inefficiency has been another factor in the rising labor costs.

The steel shortage has contributed in more ways than one to the predicament of the box maker. Nails have been hard to buy and expensive, adding to production problems, but the lack of steel has materially reduced the output of nuts and bolts which are normally shipped from the factory in wooden boxes, thus reducing the box demand. The lumber shortage has, of



course, been felt in a scarcity of timber for shoo production and in high prices, in spite of the fact that many shoo manufacturers are operating at extremely low margins in order to maintain the business.

This year additional factors are affecting demand for wooden boxes so that the general outlook is far from favorable. Normally about 50 per cent of all wooden boxes go into the fruit and vegetable trade. Northwest apples, a large box user, have been seriously affected by a lack of market during the past winter with the result that growers are eyeing all means of reducing costs and are almost certain to reduce expenditures for packaging this year.

During the early spring the Texas tomato crop dropped 40 per cent below normal, and the California drouth during the same period seriously reduced the box demand from the citrus fruit industry as well as that of other agricultural products. Combining these reductions in food production with the reduction in demand for food products which has been occasioned by the high prices, it is easy to see why the box manufacturers are exhibiting some

**TACOMA**—A six months option for purchase of the Wilkinson coke plant has been granted by the War Assets Administration to the Curran Carbonizing and Engineering Co., St. Louis, Mo. Under the terms of the option Curran is required to spend \$25,000 for dewatering the mines, exploring the coal deposits and negotiate a mining lease with the owners of the Wilkinson mine. The coking plant has a rated capacity of 6,250 tons of coke per month, 75,000 gallons of coal tar, and 33,000 cubic feet of gas. It has been idle since the end of the war.

Centennial Flouring Mills have completed plans for reconstruction of the plant which was destroyed by fire over a year ago. Mill capacity of the new plant will be about the same as the old, but grain storage facilities will be increased from 500,000 to 2,000,000 bushels.

concern. Whether or not the use of air transport will grow large enough to be an important factor in the situation appears to be doubtful, but to add to the general gloom a representative of a commercial air line told the wood box manufacturers that air cargo is not suited to the use of wood boxes.

Hope for the future of the wood box is being pinned primarily on research into the development of lighter boxes, better suited to individual products, and manufactured from a variety of timber species rather than white pine only. Some box makers have been able to report fair measures of success with experimental products combining one or more of these features.

Speaking of air cargo, six commercial air line companies operating scheduled flights in the Northwest have recently added to the always growing list of trade associations by organizing the Pacific

(Continued on page 97)



## Something to shout about!

A fellow can't help getting excited about this amazing new portable, reversible, power belt conveyor. Slick as tomorrow's convertible, the New Stevedore, Jr. adjusts to

### A New High and a New Low

Up to 82" and still down to earth at the receiving end for easy loading. On a level, a range of 18¾" to 64¾". And adjustment is

### Simple As Winding Your Watch

Accomplished with an easy-going, good-natured crank. The positive screw and bevel gear mechanism keeps it where you want it. It has

### New Rugged Strength

The man-size cross braced channel steel frame gives it bridge-like stability. Streamlined, too...no sharp corners to damage load.

### And Greater Capacity Has Been Added

With the oversize Ruff-Top 10" and 16" belts (25% wider) you can handle larger cartons and bags. What's more...the New Stevedore, Jr. has

### New Adaptability

Frame can be shortened or lengthened by installing sections of different lengths. And for men and materials there's

### New Safety

The full length guard rails on both sides add extra protection.

Yes, you'll shout about it, too, when you read the full story. You'll see that Rapids-Standard has again written a new chapter in conveyor history. Write for the full details.

**THE RAPIDS-STANDARD CO., INC.**

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See your classified phone book for nearest representative

IT'S WISE TO CONVEYORIZE

**Rapids-Standard**  
MATERIAL HANDLING EQUIPMENT



## REGIONAL REVIEWS

### THE WASATCH FRONT

# Utah's Benefit Payments Most Liberal in Nation

**State pays out more unemployment insurance benefits than Colorado, Idaho, New Mexico and Wyoming combined**

**S**ALT LAKE CITY—The Utah Foundation, an organization set up by Utah business and industry to study taxation, recently delved into the unemployment insurance records and came up with some eyebrow-raisers for those who have been paying the bill.

The study disclosed that during the two-year period 1946-47 Utah paid out more in unemployment compensation than Colorado, Idaho, New Mexico and Wyoming combined. The average number of workers covered in Utah during the period was 106,259 compared with 370,314 for the other four intermountain states. In terms of dollars, Utah paid out \$6,383,233 for a program covering 106,259 workers whereas the other four states paid out \$5,257,444 for a program covering three and one-half times that number of workers.

But while Utah was passing out more state money than four neighboring states, the federal government dished out more than three times as much in those same four states as in Utah. The comparable unemployment payments of the Veterans Administration were \$6,825,000 in Utah; \$10,489,000 in Colorado; \$7,202,000 in New Mexico; \$3,056,000 in Idaho and \$998,000 in Wyoming.

#### State and Federal Funds Ratio

The explanation to this wide disparity in the ratio of state and federal funds disbursed in the five states is simple. Utah's weekly benefit payments are the most liberal in the nation and more liberal than Veteran Administration payments. In Utah the veterans, if they could qualify under the state program, naturally took the state benefits in preference to the federal benefits. In the other states, where the Veteran Administration payments were more liberal than state payments, the veterans turned to the federal program.

The average weekly payments of the five states for the period studied were:

Utah, \$23.35; Wyoming, \$18.89; Idaho, \$15.45; Colorado, \$13.89; and New Mexico, \$13.41.

The non-ferrous metal mining and smelting industry has some labor pains coming on during the next several weeks. For whether the employers like it or not, they are squarely in the middle of the fight between the communist-wired International Union of Mine, Mill & Smelter Workers and the anti-communist secessionists who have set up the Progressive Metalworkers Council.

#### Union Contracts

Briefly, the situation in Utah and Nevada is this: all existing contracts are with the International union, the district union (which is now defunct) and the respective locals. Some of these contracts automatically expire June 30 and some automatically continue for another year unless one of the parties serves notice of termination.

Eight locals, mostly small ones, have withdrawn from the International and will demand the right to negotiate through the new PMC. Employers in the Park City district (where the International is still the representative of the workers) have served notice that they intend to terminate contracts with the International as of June 30. This action was prompted by the fact that their contracts carry an automatic continuing clause. Employers whose workers are still represented by the International but whose contracts automatically expire, are sitting tight to await developments.

The International is threatening strike action unless the employers recognize it as the bargaining agent.

One thing is obvious. If the mining companies want to get out from under the International, now is their opportunity. They can assert their right to refuse to bargain with a union whose officers have refused to sign the non-communist affidavit, and do it with the backing of the state CIO council and most, if not all, of

the other CIO unions in the state and top officials of the national CIO. In other words they can insist on bargaining with their respective locals or PMC without placing themselves in a position of trying to escape collective bargaining, though they will be loudly accused of doing just that by the International union officers and spokesmen.

Utah's potent education lobby, which won a big boost in school revenues from the 1947 state legislature, is already serving notice of another offensive in the 1949 legislature to relieve "the financial crisis" confronting the school system. As specific sources of additional revenues, they are putting out feelers on a severance tax and a hike in the income tax, either by increasing rates or by eliminating the federal income tax as a deductible item for state income tax.

The severance tax on natural resources has been kicked around in the past several legislative sessions but opponents have heretofore succeeded in bottling it up in committee.

The U. S. Geological Survey has completed a pamphlet recounting the pertinent facts about 550 exploratory drilling for oil and gas in Utah during the past 25 years. The information was compiled because of the intensive exploratory program now under way in the state, particularly in the southeastern counties.

Thermoid Company's annual report says the sales force in the Western area will be increased with the hope of putting the new factory at Nephi on at least a two-shift operation before the end of the year.

"There is not much efficient competition in the Pacific Coast area on the products we are to make," the report adds. President E. F. Schluter also says the high altitude of Nephi has been very beneficial in rubber manufacturing and vulcanizing processes, eliminating problems of humidity and process blistering.

# WHY LOWER STEEL PRICES?

"We are decreasing prices in the hope that this may start a cycle of lower prices generally, thus increasing the purchasing power of everybody. That is the purpose, and the only purpose, behind our action."

*B. I. Fairless*, PRESIDENT  
UNITED STATES STEEL CORPORATION

IN accord with this policy, we have announced reductions ranging from one to five dollars a ton, on many steel products. We have chosen products which have a direct bearing on the cost of living, such as roofing and siding sheets, wire fence, wire netting, nails, fence posts, tin plate, reinforcing fabric, wire rope and various types of sheets, wire, shapes, bars, strip, tubing, plates and pipe.

No single product affects the national economy as does steel. Every manufacturer, every wholesaler, retailer and distributor of steel products . . . has an opportunity to share our purpose and aid our action. If these lower prices are reflected in lower prices for products made from steel, then truly, a realistic war against inflation will have been declared.



AMERICAN STEEL & WIRE COMPANY • CARNEGIE-ILLINOIS STEEL CORPORATION  
COLUMBIA STEEL COMPANY • NATIONAL TUBE COMPANY  
TENNESSEE COAL, IRON & RAILROAD COMPANY

UNITED STATES STEEL

**STOP** the Waste  
of Production Delays  
and Costly Messenger  
Service...



Speeding tools and requisitions by Tubes at International Business Machine, Endicott, N. Y.

## LAMSON Pneumatic Tubes

**RUSH** papers, blueprints, shipping orders, mail, time tickets, small tools and specimens to any desk in your plant.

**SAVE** time, money and motions. Coordinate your various departments for greater efficiency.

Yet Lamson Tubes are surprisingly low in cost. In many plants they pay for themselves in less than two years. In one plant, they saved \$150,000.00 the first year.

**LAMSON CONVEYORS**  
**Cut Materials-Handling Costs up to 30% . . .** They eliminate heavy physical work . . . speed production by maintaining a steady flow of materials . . . free men for more important jobs. And they save up to 30% of your manufacturing dollar. Lamson Engineers can design, build and install Conveyors in practically any plant, warehouse or factory.

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611 Howard Street, San Francisco, Calif.

Please send me your free bulletin on the following:

- ☐ Pneumatic Tubes  
☐ Conveyors

Name of company .....

Address ..... City ..... State .....

My name and position .....

# MECHANICAL KINKS

By W. F. SCHAPHORST, M.E.

Former Engineering Instructor  
New Mexico State College

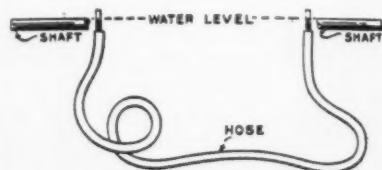
## Opens Window With Compressed Air

Not so long ago this writer called rather frequently on the chief engineer of a large plant who believed in doing things the "easy" way — whenever possible. He was an exceptionally capable engineer, so much so that he is now chairman of the board of the company, and doing well.

During his above visiting days the writer found that it was not necessary for his chief to say, "George, close the window," or, "George, open the window," whenever he wanted the window opened or closed. The plant was so noisy that conversation over the telephone was impossible when the window was open. Consequently, the window had to be opened and closed frequently because the chief used the telephone often. The window was opened and closed by a twist of the wrist of the chief himself, who simply manipulated a valve located beneath his desk with-in convenient reach. So the mere twist of the wrist — and compressed air — did it.

The chief didn't rise from his chair or even bat an eyelash.

The chief told the boys in the plant to make such a device for him—and they did—out of old cylinders, valves, and pipes and fittings that would otherwise have been junked. Modern welding can often do wonders with an old junk pile, as in this instance.

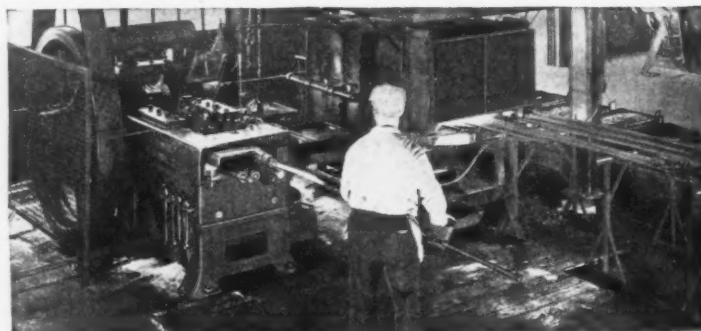


## Leveling Job With a Hose

Slip gauge glasses into each end of an ordinary garden hose as indicated in this sketch, and fill with enough water so that the level will show in each glass.

(Continued on page 90)

## This is how STROM BALLS are born



A heading machine cutting sections from heated steel rods and compressing them in a die to a rough spherical shape.

The steel is carefully chosen and inspected, even before it gets to the heading machine. After being "born" here, balls are carefully "brought up," through a long series of grinding and lapping operations, to the unbelievably high standards of finish, sphericity and precision which have made Strom Metal Balls the standard of industry. Strom Steel Ball Co., 1850 South 54th Avenue, Cicero 50, Illinois. Pacific Coast Representative—Precision Bearings, Inc., 1706 S. Grand Ave., Los Angeles 15.

**Strom BALLS**  **Serve Industry**

Largest Independent and Exclusive Metal Ball Manufacturer



# NEED MORE "DRIVE"

## IN YOUR MACHINES?



# Check Chabelco!

(AVAILABLE FROM STOCK)

**Rex Light Chabelco . . .**  
for moderate loads

**Rex Universal Chabelco . . . for**  
heavy loads at higher speeds

**Rex 3100 Series Chabelco . . . short**  
pitch chain for high-speed service.

If you want top performance from your machines . . . if you want drives that stand up under the toughest operating conditions, the Rex Chabelco Line of Chains and Sprockets is the answer.

Specifically designed for drive service on equipment where steady, uninterrupted service is a "must," these husky steel chains deliver more H.P. per dollar . . . assure low initial and operating costs . . . and freedom from production loss due to premature drive failure. Often a Rex Chabelco Chain, single or double strand, will handle loads that would require triple or quadruple strands in other types of chain.

Where service is exceptionally severe

. . . where equipment must operate under conditions of dirt, dust and temperature extremes, a Chabelco Chain will keep going when other driving mediums would soon fail. Designed-in clearances between working parts enable it to operate efficiently under these conditions and to accommodate minor misalignments.

Many sizes of standard Rex Chabelco Chains and Sprockets are now available from stock. For all the facts on how they can help you put more "drive" in your machines at the lowest over-all cost, call your Rex Field Office or write Chain Belt Company, 1723 West Bruce Street, Milwaukee 4, Wis.

**Rex Heavy Chabelco**  
. . . for heavy loads



# LABOR

and the  
INDUSTRIAL WEST

## Billions Involved in Overtime Issue

**A**LL industry is in grave danger of being liable for billions of dollars in back pay, if the overtime-on-overtime controversy is settled in the Supreme Court in favor of unions attempting to collect retroactive overtime on overtime.

Frank P. Foisie, president of the Waterfront Employers Association of the Pacific Coast, told *Western Industry* that congressional action is necessary at once to protect all of American industry on an issue that may well involve a greater amount of money than the portal-to-portal pay controversy.

The story starts with the Fair Labor Standards Act. The Act itself does not define "regular rate of pay" or "overtime rate of pay." It merely states that the wages for hours of work over 40 a week or eight

a day shall be at one and one-half times the regular rate.

For example, a man worked nine hours on each of five days, Monday through Friday, or eight straight-time hours a day at the rate of \$1 an hour and one overtime hour a day. The present practice is to pay the man for 40 hours at the \$1 an hour, or \$40, and for five hours at \$1.50, or \$7.50. The total would be \$47.50.

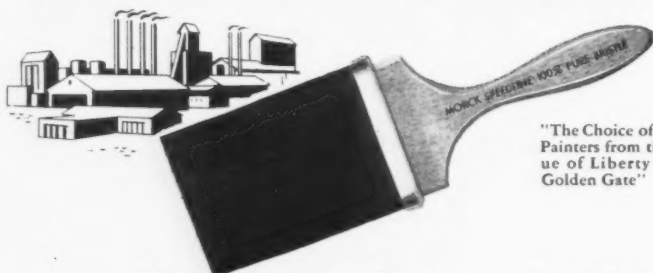
Under the new formula, \$47.50 would be divided by 45 hours and the rate would be \$1.055 an hour for 40 hours, and thus \$1.58 an hour (one and one-half times \$1.055) or \$7.90. The total would be \$50.12. The excess amount due in the example would amount to 5½ per cent of pay roll. Which is the "regular rate" of pay is the question now pending in over 400 suits scattered throughout the country.

Industry and labor for years believed that "regular rate" referred to in the Act meant the straight-time rate of the contract. Then the Second District Court of Appeals upset the apple cart by handing down a decision that the "regular rate" within the meaning of the Act was the average hourly wage received by the worker in any specific week.

An employer may have paid overtime as called for by the contract but now he has to pay statutory overtime computed on contract overtime already paid. Thus the term "overtime on overtime." Enormous payments are involved that cover millions of workers and hundreds of millions of hours of overtime. All types of industry will be involved, Mr. Foisie pointed out, with the stevedoring industry alone facing

(Continued on page 97)

### MORCK SPEED-LINE BRUSHES



"The Choice of Master Painters from the Statue of Liberty to the Golden Gate"

### Cover More Square Feet . . . FASTER

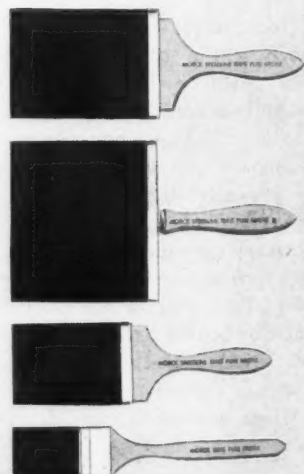
Heavy industrial maintenance jobs demand a lot from brushes. Morck Speed-Line 100% Pure Hog Bristle Brushes are designed to meet this requirement. They are built to the specifications of master painters . . . to meet every type of job . . . production line or maintenance.

Morck's master craftsmen build feel and balance into these modern painters' tools . . . for easy, fast, efficient work with better lay-on and brush-out. Long lasting, usable right down to the heel, for still more economy. Give your painters Morck Speed-Line 100% Pure Hog Bristle Brushes and your painting problems stop.

SEND FOR THE MORCK CATALOG

### MORCK'S PAINTER'S KIT 100% PURE HOG BRISTLE

Morck's big-4 are a must for painters . . . Stucco, Wall, Enamel and Sash. Brushes you'll be proud to own.



SEE THEM AT YOUR DEALER'S



Morck Brush Division

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San Francisco 3

• 7200 stainless steel stampings per hour—

• tolerances held within 0.002" —

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# DANLY

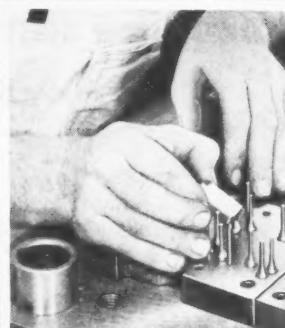
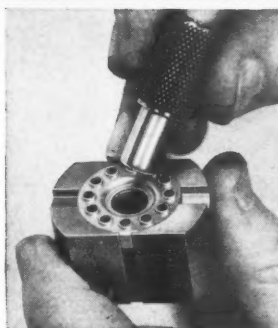
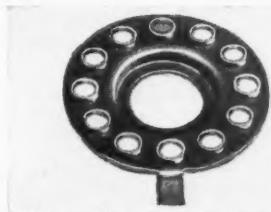
## STANDARD PRECISION DIE SET

Sustained operating precision of die set reduces die wear... produces 200,000 stampings per grind

Inherent accuracy in Danly Die Sets permits taking full advantage of the die maker's precision under actual press operating conditions. As a result, close tolerances may be held and tool life is substantially increased.

In the stamping operation shown, stainless steel parts for electrical instruments are pierced, formed and blanked in an intricate progressive die. Tolerances are extremely close, and finished parts must pass rigid gage inspection.

Stampings are produced at a rate of 120 per minute. At



this high speed, a tolerance of 0.002 in. is held on inside and outside diameters and the distance between the bent arms. Danly Die Set accuracy is a major factor in maintaining punch-and-die relation, resulting in production of 200,000 parts between grinds.

**DANLY ENGINEERING SERVICE**—Use Danly Die Sets to insure the same close precision, high production and long die life on all of your press work. Consult our Engineering Dept. for helpful recommendations on die sets—large or small, standard or special—for any type of press operation. (No obligation.)

### DANLY NATION-WIDE

★ ASSEMBLY SERVICE



Danly offices in 10 key cities give immediate attention to your orders. Assembly plants (marked with stars) stock interchangeable parts for quick delivery of any standard die set to your specifications.

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- ★ Long Island City 1, 47-28 37th St.
- ★ Los Angeles 54, Ducommun Metals & Supply Co., 4890 S. Alameda
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## DANLY

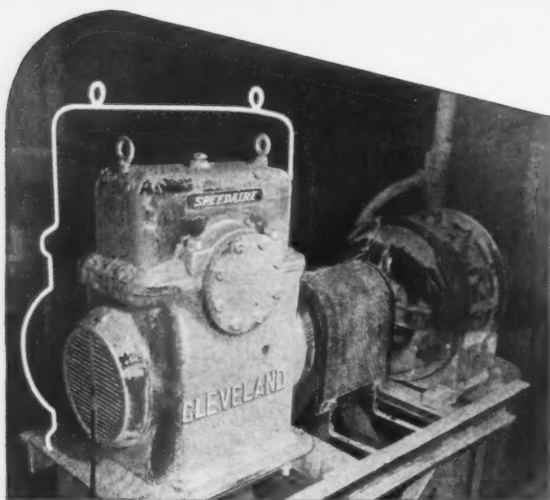
### DANLY MACHINE SPECIALTIES, INC.

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PRECISION DIE SETS...STANDARD AND SPECIAL

MECHANICAL PRESSES AND PRESS EQUIPMENT



As the white outline indicates, a standard unit of much greater frame size would be required to do the work of Speedaire.

## Calcimine can't slow up

### **SPEEDAIRE**

**D**UST accumulates quickly on everything in this New Jersey Calcimine plant, but it does not impair Speedaire's capacity or efficiency. Speedaire was selected for this job, over a conventional worm gear drive, first, because Speedaire's powerful fan keeps the internal surfaces clean and cool, and second because of the saving in space, weight and cost. The money saved was \$117.00.

Speedaire is Cleveland's new fan-cooled worm-gear speed reducer. Because it is fan-cooled, Speedaire will do more work—will deliver up to *double the horsepower* of standard worm units of equal frame size, at usual motor speeds. It can be installed economically on many applications where other types have been used heretofore—giving you the advantage of a compact right-angle drive. Speedaire gives the same long, trouble-free service characteristic of all Clevelands.

For full description, send for Catalog 300. The Cleveland Worm & Gear Co., 3269 East 80th Street, Cleveland 4, O.

Western Offices: Seattle, Portland,  
San Francisco, Los Angeles



**CLEVELAND**  
Worm Gear  
*Speed Reducers*

## THE WEST ON ITS WAY

### ARIZONA

**TUCSON POWER PLANT**—Tucson Gas, Electric Light & Power Co. plans to build a new power plant to cost \$2,000,000, which is included in a \$3,000,000 expansion program.

**FLAGSTAFF MILL IN OPERATION** — Southwest Lumber Mills, Flagstaff, is in operation with a capacity of 16,000 sq. ft. of lumber per hour. The total employment in that industry in this area, including the Saginaw & Manistee plants, is more than 700.

**MINING IN RAY**—Kennecott Copper Corp. is converting part of its operations at Ray from underground to surface mining. The work will be completed in 1950.

**PHELPS DODGE PLANS SMELTER** — Phelps Dodge Corporation will construct a \$5,000,000 copper smelter at its New Cornelia branch at Ajo, which will have a capacity for handling 190,000 tons of copper concentrates annually. It is expected to take at least two years to complete.

### CALIFORNIA

**METALS FIRM BUYS LAND**—California Hydraulic Metals, Inc., has purchased five acres of land at 2132 East Dominguez Avenue, Long Beach. Office and press buildings for processing scrap metals will be constructed. Nathan Hochman is president.

**SHEET METAL ITEMS**—Morris Metal Products Company, 802 East First Street, Los Angeles, has started manufacture of sheet metal items for the building industry, such as louvers, vents, ironing boards, mail boxes. The company is constructing a building at 5164 Alcoa Avenue. Morris Wakcher is president.



Dodge West Coast car - truck assembly plant, San Leandro, Calif.

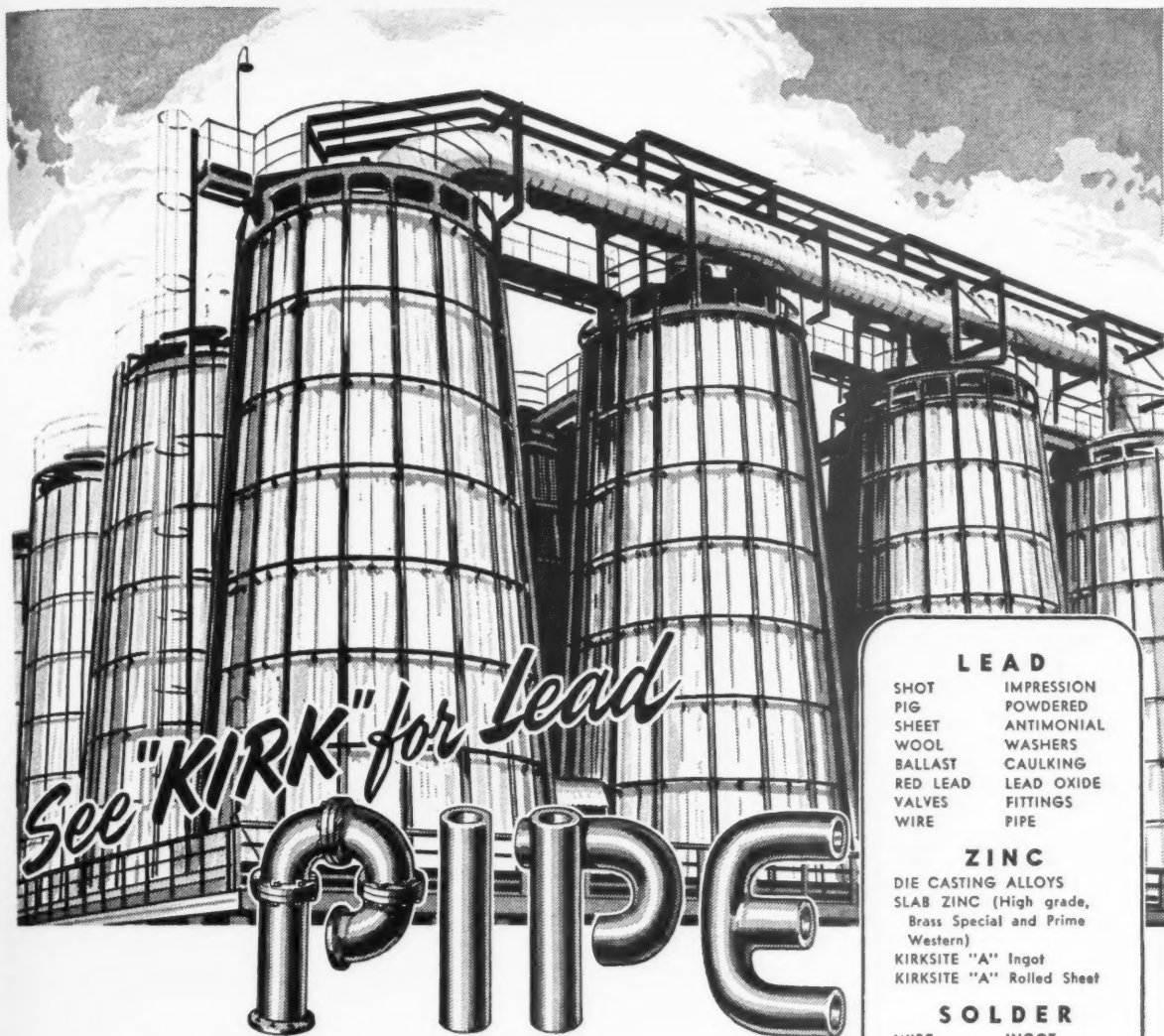
**ALUMINUM FOIL MILL**—The Permanente Metals Corporation will reactivate its Permanente plant as a light metals operation by establishing an aluminum foil mill at that location. This brings a new industry to the San Francisco Bay area, and is the only one of its kind west of the Mississippi. Machinery was purchased in Germany, and shipment is underway. Installation will begin in the early summer, and actual production will probably start late this fall. The operation will require the eventual employment of 200 men.

**ASBESTOS-CEMENT FACTORY** — The Paraffine Companies, Inc., have built the first asbestos-cement building materials plant in the West at Redwood City. With its completion, a new type of production and a new industry will be added to the Pacific Coast. Ultimately 200 men will be employed. Local labor is being used and 85 per cent of the raw materials are of local origin.

**CHEMICAL FIRM BUYS LAND**—Trail Chemical Corp has 2½ acres at 2512 Gidley Street, El Monte, and 6,000 sq. ft. of building space for manufacture of lacquers, synthetic enamels, and paints, under the trade name of "Trail." W. J. Peters is president.

**SPINDRIVER MANUFACTURER** — Globe-Superior Company, 1766 Seabright Avenue, Long Beach, is manufacturing screwdrivers under the trade name of "Spindriver." The company has 6,000 sq. ft. of building space on eight lots. Clarence Skamser is president.





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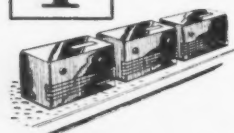


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can solve your paint problem

## THE WEST ON ITS WAY

**SOUTHERN CALIFORNIA EXPANSIONS:** U. S. Spring & Bumper Company, 4951 Alcoa Ave., Los Angeles, is erecting a warehouse and installing another spur track to cost about \$90,000. Company also leased building and some equipment at 2730 East 37th Street, and will install additional equipment at a cost of about \$150,000; State Packing Company, 3163 East Vernon Avenue, meat packer, is constructing a rendering plant which will cost about \$100,000; Mission Appliance Corp., 12611 Crenshaw Boulevard, Hawthorne, is erecting an 18,000 sq. ft. addition for production of automatic storage water heaters.

**BUTLER FIRM TO OPEN SOON:** Butler Manufacturing Company expects to begin production shortly of fabricated industrial buildings of steel and aluminum and warehouse buildings at its new plant in Richmond. The firm has leased 12½ acres from Santa Fe Land Improvement Co. and has spent close to \$500,000 in building and equipment.

**BUYS OIL INTEREST:** Sunray Oil Corp. has bought a half interest from Kirk Oil Co. in Fresno County, California. The remaining half interest is owned by Sharpless Oil Co., operator of the acreage.

**NEW SHELL CHEMICAL PLANT:** Shell Chemical Corporation is building a plant at Martinez to manufacture "petroleum additives." These products are explained as chemicals which are added to lubricating oils and other petroleum products to increase their life and performance.

**ALAMEDA WAREHOUSE** — Stokely-Van Camp Foods, Inc., have started construction of a warehouse in Alameda to cost \$500,000. The building will contain approximately 140,000 sq. ft. of floor area and will be located at the Encinal Terminal. Capacity of the plant will be between 5,000,000 and 7,000,000 cases of canned food products.

**TEXAS COMPANY BUILDS:** Construction has begun on a \$500,000 plant for the Texas Company to serve as the oil concern's main central California distribution headquarters. The project will occupy a five-acre site on Army Street, San Francisco, and will include 12 large storage tanks and a one-story office building. The oil tanks will be replenished by tanker and barge from a wharf to be constructed by Texaco at nearby Islais Creek.

**PASTE AND ADHESIVE FACTORY**—H. B. Fuller Co. of California, San Francisco, have established a paste and adhesive factory in a 15,000-sq. ft. building. Seven persons will be employed.

**FOOD PROCESSING**—A. Levy & J. Zentner Company, San Francisco, announce the expansion of processing and storage facilities in preparation for large shipments of bananas; Kuster Laboratories, Ltd., Belmont, will build a 24,000-sq. ft. plant to cost in excess of \$200,000, and to employ more than 40. The company manufactures soy sauce condiments, etc.

**CONTRACT FOR LOCKHEED JET FIGHTER PLANES**—Lockheed Aircraft Corp., Los Angeles, announces a \$5,000,000 contract for 50 Shooting Stars, P-80 jet fighter planes, for the Navy. The order brings the company's backlog to \$125,000,000 compared with \$153,000,000 at this time last year. The planes will be assigned to units where their top fighter pilots are receiving jet combat training.

**PROPOSED PLANT AT UKIAH**—Masonite Corporation, manufacturer of wood fiber hardboard, plan to buy a tract of more than 50,000 acres of timber in Mendocino county. They will build a plant near Ukiah and a private truck road more than 30 miles long from Ukiah to the timber tract. The West Coast program will involve a capital investment of "several million dollars."

**TORRANCE PLANT TO MANUFACTURE FOR ROME CABLE**—Anderson-Carlson Manufacturing Company at Torrance will manufacture electrical metallic tubing and allied products to be sold through Rome Cable Corporation sales outlets to the construction industry.

**AIRESEARCH CONTRACTS FOR PRESSURE INSTRUMENTS**—AiResearch Manufacturing Company has contracted to replace all cabin pressure controls in fleet of L-49 Constellations owned and operated by British Overseas Airways Corporation.

**TWO FIRMS CONSOLIDATE**—Barron-Gray Packing Company of San Jose and Hawaiian Pineapple Company of Hawaii have consolidated. The Hawaiian firm exchanged 134,482 shares of its common stock for control of the San Jose firm; the deal involved approximately \$3,000,000.

**BABY FOOD PLANT ADDS SPACE**—Beechnut Packing Company, San Jose, started construction of \$150,000 addition to new baby food plant — a total of 12,450 sq. ft. of floor space to be added.

**PLYWOOD PLANT AT EUREKA**—M and M Wood Working Company of Oregon is constructing a \$1,500,000 plywood plant at Eureka to produce redwood plywood and Douglas fir plywood.

## COLORADO

**GAS RECOVERY PLANT**—Construction has started on the gas recovery plant at Rangely, which will utilize 20,000,000 cu. ft. of natural gas daily to produce 25,000 gallons of gasoline, 50,000 gallons of propane and 16,000 gallons of butane.

**ALLIED CHEMICAL AT SALIDA**—Allied Chemical & Dye of New York has purchased Colorado Fluorspar Mines, Inc., Salida.

**GREELEY TO HAVE BOTTLING PLANT**—H. F. and R. H. Timbers of Alliance, Nebraska, are planning a new Nesbitt Bottling Company in Greeley for distribution in eight northeastern Colorado counties.

**MAGNESIUM AND POTASH DEPOSITS**—A California syndicate, headed by P. A. Clark, will start drilling operations soon to develop rich magnesium and potash deposits in Grand County. The syndicate controls 15,000 acres near the site tested in 1942 by Defense Plant Corp.

## IDAHO

**EXPANSION OF MATCH INDUSTRY**—The Diamond Match Company was successful bidder at an Idaho state land sale, offering \$177,000 for 2,060 acres of pine timber, Tract borders Priest Lake. . . . Ohio Match Company will build 10 dry kilns and change from steam operation to electricity at its Huetter mill, at an expenditure of approximately \$500,000. The kilns will have a daily capacity of 140,000 board feet of commercial lumber. The new concrete and steel building will be 106x175 ft. Energy for the electrified operations will be supplied by Washington Power Company from Post Falls dam.

**WESTVACO TO BUILD ELECTRIC FURNACE**—In connection with their phosphorus operations near Pocatello, Westvaco Chemical Company have recently purchased 364 acres north and west of the Simplot Fertilizer Company. They will start construction soon on this land of a \$4,000,000 electric furnace for producing phosphorus.

**LEAD AND COPPER DEPOSITS**—High grade lead ore has been uncovered by the Lookout Mountain Mining and Milling Company, Kellogg, which was originally in workings formerly productive in the early '20s. . . . The attention of fieldmen is also attracted by development of a new body of sulphide copper ore four miles from Adair, which is being mined by the Hansey Gold and Copper Mining Company.

## MONTANA

**SUGAR FIRM BUYS FARM**—The Utah-Idaho Sugar Company has purchased a 160-acre farm near Conrad, and will also take over the active management of its sugar factory farm previously tenant-worked. These farms will serve as demonstration and research units, involving the use of rotation, fertilizer practices, water application, mechanization, weed control, etc.

**POLE TREATING PLANT**—McNeils Lumber Company's new pole treating plant is in full operation at Libby with a 24-hour capacity of 1,600 seasoned poles. The firm will treat lodge-pole, larch, cedar and fir poles cut in this area and plans to do custom treating and treating in transit of lumber, poles, piling and ties for producers west of Libby.

**IDEAL EXPANSION PROGRAM**—Ideal Cement Company's expansion program, which has involved an expenditure of \$15,000,000 in the last two years, continues with a \$500,000 plan for reconditioning of equipment at the Trident plant 30 miles from Bozeman. Two kilns with necessary grinding equipment will probably be installed, increasing capacity from 850,000 to 2,000,000 barrels of cement a year.

**PERU FIRM BUYS LIME COMPANY**—The Washington-Idaho Lime Products Company, Orofino, has been sold to the Compania Minera Chanchamina of Peru.

## NEVADA

**U. S. GYPSUM BUYS PLANT**—The gypsum plant and quarry of the Pacific Portland Cement Company at Empire has been purchased by the U. S. Gypsum Company for \$2,125,550. Located between Reno and Gerlach in northern Washoe County, it has been operated by Pacific Portland for the past 25 years.

**OIL WELL DRILLED**—The fourth well drilled in Goodsprings, former mining town 40 miles from Las Vegas, has produced oil. Production is expected to be 10 barrels a day. Three other wells drilled previously have supplied Goodsprings residents with oil for stoves for the past two years.



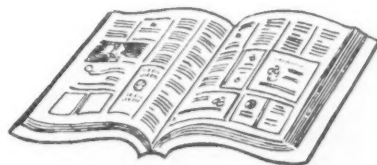
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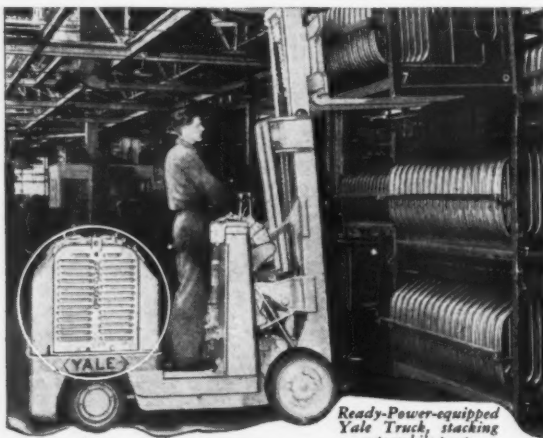
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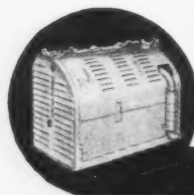
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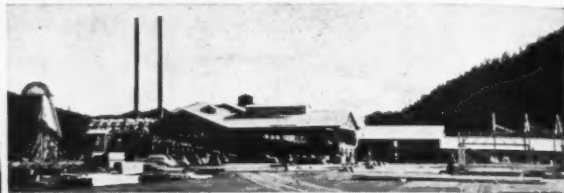
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## THE WEST ON ITS WAY

### OREGON

**RADIANT HEATING TESTS**—The Pan-L-Heat Corporation, 2838 N.E. Columbia Blvd., Portland, has opened a test laboratory to obtain technical and accurate information and data on radiant heating equipment.

**COOS BAY ADDS TO DOCK**—The Central Dock Co. will build a 630-ft. addition to its dock at Coos Bay at a cost of \$200,000. Purchase of this frontage was from the Port of Coos Bay.



Pope & Talbot's Oakridge, Ore., sawmill which is now operating.

**HAWLEY PULP SOLD**—Hawley Pulp & Paper Co., Oregon City, has been sold by John H. Smith, president, and others to Publishers Paper Co. and Blyth & Co. . . . Hawley Pulp & Paper recently completed new log loading and unloading facilities at Manhattan, Tillamook County, and at Winona, Polk County, at a cost of approximately \$100,000.

**WEYERHAEUSER TIMBER TO EXPAND**—The projected construction and development of new plant facilities for the Weyerhaeuser Timber Co. at Springfield will cost an estimated \$10,000,000, and 400 to 500 men will be employed when operations begin on the expansion.

**NEW PLYWOOD PLANT**—Construction of a plywood plant to produce 24,000,000 sq. ft. a year has been started a few miles east of Lebanon. The new mill will employ 100 men. The plant will occupy 35,000 ft. of floor space.

**PLANT INSTALLS SHIPYARD CRANE**—The Hawley Pulp & Paper Company have transferred a large crane from the Oregon shipyard to Winona station, west of Salem. The crane is capable of handling a carload of logs in a single lift. The investment is estimated at \$125,000.

**NEW PLANT BUILDS**—Construction work has started on the Daily Courier's new office building at Grants Pass, which will be of reinforced concrete with glass block panels.

**PROCESSING PLANT TO OPEN**—The Oregon City plant of the J. M. Smucker Company, national fruit processing concern, will go into operation in time to handle the 1948 strawberry harvest.

**PORT OF ARLINGTON PLANS ELEVATOR**—The Port of Arlington is applying for a permit to construct a grain elevator, at the mean high water line of the Columbia River, 848 ft. east of Main Street, a conveyor and five rock-filled timber cribs.

**NEW PORTLAND FIRM MOVES**—The Tice Hardware Manufacturing Company, manufacturer of builders' hardware, has moved from 4918 S. E. Powell Blvd. to a frame building at 5015 S. E. Haig Street, Portland.

**CALIFORNIA FIRM OPENS BRANCH**—The All-Brite Fluorescent Fixture Company of California has opened a branch in Portland.

**FLAX PLANT TO EXPAND**—The West Salem plant of Oregon Flax Textiles, Inc., will have an addition as soon as machinery is available. The expansion program is expected to double the plant's capacity.

**AIRCRAFT ESCORT CARRIER TO CARGO SHIP**—Albina Engine & Machine Works, Portland, has obtained a contract from the Salen-Skaugen Steamship Company to convert the aircraft escort carrier Long Island into a cargo ship. It is expected to take about six months — at a cost of more than \$1,000,000. Five hundred men will be employed at peak of operations.

**MINING COMPANY FORMED**—The Alakite Corporation has been organized in Portland to mine Alaskan minerals and market them in the United States. William T. Foran of Fairbanks, Alaska, is consulting geologist and vice-president of the firm. R. W. Irish is president.

**CONCERN CHANGES NAME**—R. I. MacLaughlin, Inc., of Oregon is now operating under the new corporate name of the Tea Garden Products Company of Oregon. The company is a wholly owned cold packing subsidiary of Tea Garden Products Company.



**TIMBER FIRM SOLD**—The Cal-Ore Lumber Co. plant and timber holdings at Ashland have been sold to the Magnolia Lumber Corp. of Jackson, Miss. The cost was approximately \$750,000. The mill, rebuilt in 1946, has a capacity of 80,000 ft. of lumber per eight-hour shift. R. Drew Lamb, Magnolia, who is president of the firm, will move to Ashland.

**PORTLAND EXPANSIONS**—California Asphalt Co., 5501 N. W. Front Ave.: Expansion of plant facilities to permit production of air-blown asphalt. Will include nine storage tanks with capacity of 117,900 barrels, two large reactors and one surge tank. . . . J. T. Scott and Son, Vancouver: Two-story reinforced concrete warehouse building having a total area of approximately 45,000 sq. ft. Estimated cost \$75,000. . . . Multnomah County, S. E. 11th and Morrison Ave.: Reinforced concrete warehouse, 100x188 ft. Low bid of \$134,848 received. . . . American Sheet Metal Works, 920 N. E. Glisan St.: One-story 100x130-ft. addition to present plant facilities, plus installation of five-ton crane. Estimated cost \$100,000.

**REFORESTATION CONTRACT AWARDED**—A contract to plant Douglas fir seedlings in 200 acres of the Tillamook burn timber lands has been awarded to the L. H. & L. Lumber Corporation, Carlton.

## UTAH

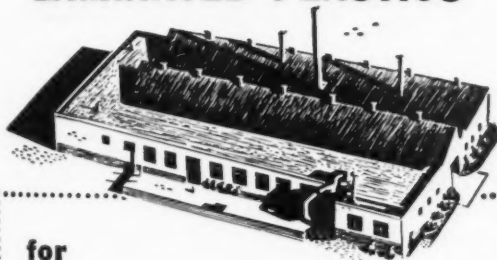
**MORE WESTWARD MOVEMENT** — From Iowa to Utah is the planned movement of the Lennox Furnace Company, now qualifying to do business and acquiring \$100,000 worth of property in Salt Lake City.

**URANIUM PROCESSING PLANT** — Monticello is the site of a uranium processing plant to go into operation shortly. Ore will be purchased by the Atomic Energy Commission in the Colorado plateau area and will be processed at the Utah plant.

**CHEMICAL FIRM OPENS**—Geneva Food & Chemical Co. has started operation of its plant near Provo. The plant has been set up for manufacture of agricultural chemicals, including liquid and granular solid fertilizers. Dr. F. N. Mortenson is the manager.

**SALT LAKE GETS FORD REPAIR DEPOT**—For the purpose of handling the inter-mountain factory repair work, the Ford Motor Company is establishing a repair station at Salt Lake City which will service Ford agencies throughout the inter-mountain area.

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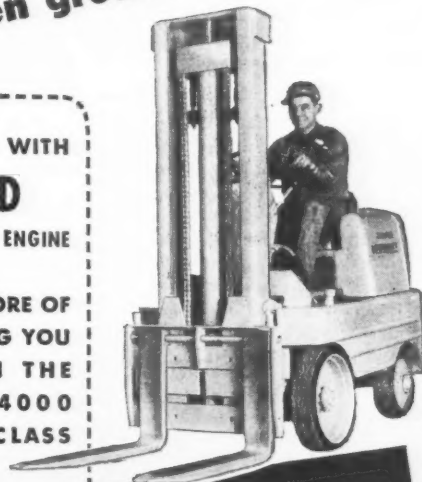
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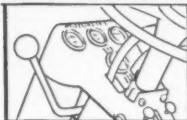
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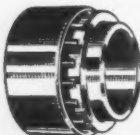
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## THE WEST ON ITS WAY

**UTAH OIL TO BUILD**—Work is under way on the construction of Utah Oil Refining Company's \$2,500,000 propane deasphalting plant, Salt Lake City. The building will be located near the catalytic cracking unit at 940 North Fourth West Street, and is expected to be in operation early in 1949.

**POWER COMPANY ORGANIZED**—The Southwest Utah Power Company has been organized in Cedar City by representatives from Washington and Iron Counties. Construction of a new power plant at an approximate cost of \$400,000 is being planned to provide for the electric power requirements of U. S. Steel's Columbia Iron Mining Company's operations.

**WAA REJECTS BIDS FOR ARMS PLANT**—The War Assets Administration has rejected all bids for the war surplus Remington small arms ammunition plant in Salt Lake City. The plant was constructed during the war, at a reported cost of \$20,000,000. Top bidders were Jack Golden of Denver and R. C. Elliott of Salt Lake City and a group of Salt Lake City businessmen.

## WASHINGTON

**NEW MANUFACTURER AT LAUREL**—The Woods Product Company has recently established a plant in Laurel for the manufacture of household fixtures.

**FERTILIZER PLANT TO BUILD**—A new fertilizer plant to be known as the Washington Liquid Fertilizing Company will be constructed in Union Gap. The company is a partnership of William L. Mayo and George Pitt.

**PLYWOOD FIRM FORMED**—Grays Harbor men have organized the Stevenson Plywood Corp., capitalized for \$450,000, and will build a plywood plant at Stevenson on the north bank of the Columbia River. Herman Snider, Hoquiam, is president of the new organization.

**GYPSUM PLANT TO OPEN**—Columbia Gypsum Products, Inc., will shortly open a \$670,000 plant in Spokane. They will process gypsum from their properties near Lake Windemere, B. C.

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**PUBLISHERS TO CONSTRUCT MILL**—A syndicate of newspapers have contracted to erect buildings to house a 40,000-ton-a-year newsprint machine and accompanying equipment at the Pacific Paperboard Co. plant, Longview. The total investment will be approximately \$2,350,000. The new mill will be operated under lease by the Paperboard Company.

**FIRM PRODUCES SMALL TETRAHEDRON**—The Ravenna Metal Products Corp., Seattle, has developed a low-cost tetrahedron for small, private airfields. Patterned after the C.A.A. approved model used by the Army during the war, the new indicator is now brought within the price range of small airfields.

**FOOD MACHINERY TO BUILD**—The Food Machinery Corp. of California will build an \$88,987 plant for its Yakima branch. The structure will go up at "C" Street and North Third Avenue on eight lots with 400 ft. of frontage on Third and 121 ft. along "C."

**RAILROAD TO GET DIESEL ENGINES** — Spokane, Portland & Seattle Railway Co., Vancouver, has a \$3,000,000 program to replace steam engines with 11 diesel electrics on all major passenger and freight runs. The new equipment will be purchased from the Electromotive division of General Motors and from the American Locomotive Company.

**ORDER FOR STRATOFREIGHTERS** — Boeing Airplane Company, Seattle, has received an order for 27 Stratofreighters from the U. S. Air Force. The planes, valued at about \$20,000,000, will be used on military air transport service lines.

## WYOMING

**GAS RECOVERY PLANT PLANNED**—A \$2,000,000 gasoline recovery and repressuring plant will be built on the Sand Creek holdings of General Petroleum Company in Washakie County.

**URANIUM LOCATED NEAR RAWLINS**—Kenneth Robinson and Walter Byron of Denver have located heavy concentrations of uranium, basic element of the atomic bomb, near Rawlins. Assays of uranium ore show concentrations as high as 30 per cent.

**SULPHAID FIRM INCORPORATED**—Wyoming Sulphaid Company has been incorporated in Cheyenne for \$500,000 to mine and develop minerals valuable as fertilizer, particularly anhydrite.

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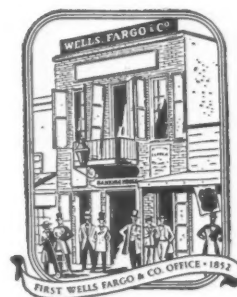
Also Gravity Roller Conveyors, Skate Wheel Conveyors, Forbes Hand Trucks, Wheels and Casters.

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# WESTERN TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND  
SELL INDUSTRIAL EQUIPMENT AND MATERIALS

W. C. Arrasmith has been appointed head of Aircraft division of E. B. Wiggins Oil Tool Co., Los Angeles. He will supervise installations of Wiggins Insto-Matic couplings in the aircraft industry. . . . Eugene Sweetland was named sales manager.

Kingwell Bros., Ltd., manufacturers of bronze bearings and machined bar stock, will be represented by Garrett Supply Company, 3844 Santa Fe Avenue, Los Angeles, in addition to Almqvist Brothers, 2300 E. 49th Street, and by John J. Clapp in Spokane.

Rodney B. Campbell has joined the Lynn Company, Burbank, Calif., as chief hydraulic engineer.

Bert E. Dwyer has been appointed office manager of Bethlehem Pacific Coast Steel Corporation's San Francisco office.

The Warner & Swasey Company opens its new Los Angeles showroom, warehouse, and Western sales headquarters at 3340 Leonis Blvd., Vernon, very shortly. L. R. Hawkins, district manager, is in charge of the new office.

F. Harvey Searight, associated with Allis-Chalmers on the West Coast for 37 years, has

retired and now accepts the appointment as consulting engineer for Pacific Pumps, Inc., Huntington Park, Calif. He will cover the Northern California maritime field for the company, which manufactures a complete line of centrifugal boiler feed and condensate pumps designed for this special service.

Barclay K. Read, formerly assistant sales manager, will assume the duties of sales manager of Shell Chemical's Western division, San Francisco. He takes the place of Sidney S. Lawrence, retired.

Arthur E. Grundy, Pliofilm representative at San Francisco for the Goodyear Tire & Rubber Company, has been named West Coast district manager for Pliofilm Sales.

Wallace D. Miracle, San Francisco, has been appointed district manager in charge of sales for Bunker Hill Smelter, Northwest Lead Company and Sullivan Mining Company in California, Nevada, Arizona, and New Mexico. He will replace F. Arthur Hammersmith who has resigned.

Robert J. Wagner, Los Angeles, has been named West Coast representative for Washington Steel Corp.



• The White Motor Company executives who recently attended a Pacific Coast sales training meeting at Portland are (left to right): Lon Fleener, assistant to Pacific Coast regional manager; Rolla W. Moore, Portland branch manager; Robert Cass, assistant to president; Wilson D. Patterson, White's Pacific Coast regional manager; and J. N. Bauman, vice-president in charge of sales of White's Cleveland headquarters.



Prompt Deliveries! Ask About  
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## New Self-Powered Rigging Makes Spectacular Savings!

"Man-hours cut  $\frac{2}{3}$  or more, even toughest 'high work' now easy!"  
—say users of Spider Staging.

NOW — it's here! It's proven! It's safer! The sensational new power-driven Spider Staging cuts rigging, and painting costs way DOWN on all types of "high work" jobs . . . quickly pays for itself! With Spider Staging you need no ropes, blocks, planks, needle beams, kick planks or bosun's chairs or scaffolding. You can handle the toughest jobs, including "high work," in a fraction of the usual time, yet with easy, safe, controlled operation at all times. Proven on Aurora Bridge, Seattle, Bonneville Dam, Deception Pass Bridge, Whidby Island, Wash., Narrows Bridge, Tacoma, and on many towers, tanks, stacks, high buildings, etc. Spider Staging makes other rigging obsolete! Write TODAY for literature and demonstration!

### SANSO MACHINERY CO.

Western Distributors for Spider Staging

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Ralph I. Petersen becomes San Francisco representative of U. S. Steel Supply Co.

Harold T. Stapleton, formerly sales representative with the New Orleans district office, has been named Pacific regional dealer supervisor at San Francisco.

International Harvester Company, Oakland, opened a new Western region sales-service executive headquarters recently at 2855 Cypress Street. Heading the truck section is E. H. Watkins, Western region truck manager; Roy A. Legge is sales district manager.

General Pipe & Supply Co., Inc., has opened a Los Angeles office for its subsidiary, General Export & Import Co. Edward Belfors and Irving Brownstein will manage the steel and machinery export-import operations.

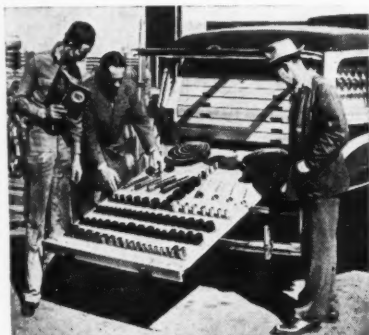
Richard Downing has been added to the Permanente Metals Corp. Spokane sales force. ... A new branch sales office in Salt Lake City is headed by Wayne Lake.

Columbia Steel Company announces the retirement of Hans E. Hansen, sales representative of the Washington division.

Robert W. Adams joins the sales staff of the Pyrene Manufacturing Company and will cover the territory in the Oakland-Fresno section of California.

Interstate Engineering Corporation has been appointed national manufacturer and sales representative of Firestone Tire & Rubber Company's airplane brake and wheel assembly.

A nation-wide service is extended to the clientele of The National Industrial Chamber, Inc., with the establishment of a Los Angeles representative, D. R. Carpenter, at 600 Roosevelt Building. It supplies a central clearing source for work orders and contracts from large manufacturers to machine shops, metal fabricators and formers, plastic manufacturers and wood-working plants.



\* New mobile display of steel products of Drake Steel Supply Co., Los Angeles, shown by H. S. Weiss, sales manager (center).

Insulation & Wires, Inc., a national concern with headquarters in St. Louis, have opened Pacific Northwest distribution offices in Portland.

A. M. McCamant, Seattle, named Spokane district mgr., General Petroleum Company, succeeding Harte Burnette, promoted to ass't gen. sales mgr. at Los Angeles.

F. J. Blake, district manager of The Carborundum Company, has moved his office from 25 California Street, San Francisco, to 340 Sixth Street.

Standard Gypsum Company of California has transferred its general sales headquarters from Long Beach to Oakland, Calif. Gil Richards, general sales manager, and Sidney J. Smith, export sales manager, will be in charge of the Oakland office in the Kaiser building.

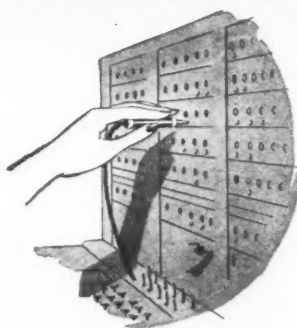
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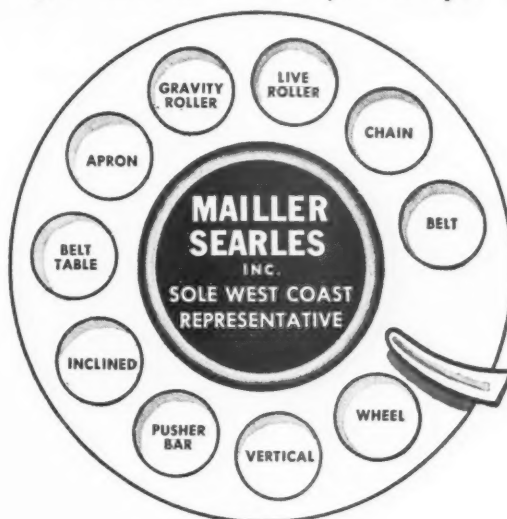
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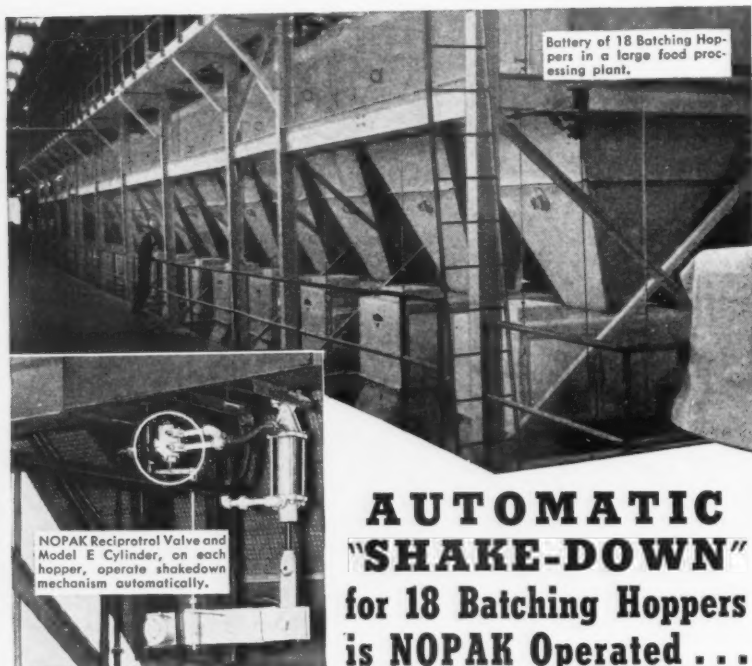
## Mechanical Kinks

(Continued from page 76)

### Ingenious Solution Of Pipe Hanging

The sketch at the left shows a pipe hanger that was installed by a prominent concern in the writer's city. The hanger was found to be faulty. Its fault was: it was too stiff. Due to its stiffness steam leaks were caused in various places where the steam pipe expansion was restricted by the hanger. The hanger, supported from an I-beam, refused to yield in the downward direction. Joints were therefore forced open and leakage occurred.

An ingenious and effective solution of the difficulty is shown at the right. The same straps were utilized by simply turning them 90 degrees. The sketch shows how the straps were attached to the vertical rod. Two longer bolts were used than in the first sketch, and compression springs were added. As a result all of the leaks were stopped. When there is expansion due to heat the small compression springs are compressed as indicated at the right, gaps, forming between the straps, also as shown. And that's "all there is to it."



### AUTOMATIC "SHAKE-DOWN" for 18 Batching Hoppers is NOPAK Operated . . .

This block-long battery of hoppers is used for measured mixing of product ingredients. Running thru each hopper is a rotating shaft, with paddles, connected to a NOPAK Model E Hydraulic Cylinder. As the cylinder reciprocates, the paddles shake down the dry ingredients which drop into glass-enclosed weighing batchers. Each of the 18 cylinders reciprocates 20 times per minute, 18 hours a day. This continuous reciprocating action is governed by 18 NOPAK Reciprotrol Valves. The entire mixing process is fully automatic . . . controlled from a central switchboard by 2 operators.

NOPAK Reciprotrol Valves can help you achieve automatic control of cylinder action in your plant, or in your product. Write for Illustrated Bulletin.

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# NOPAK

VALVES AND CYLINDERS

DESIGNED for AIR and HYDRAULIC SERVICE

A 5410-1/2 I

This writer considers the solution of the problem as particularly interesting and valuable because of the inexpensiveness of the change. In the above plant the alteration was made without the necessity of cutting out any boiler at any time.

### Plastic Outwears Metal

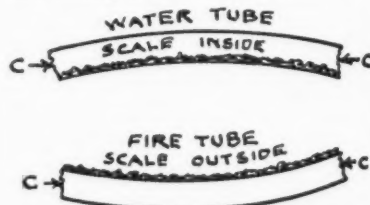
Plastic materials are now doing remarkable things. One of the most remarkable that has come to this writer's attention is the use of a laminated plastic material in place of the soft metals that are so commonly used in bearings. A user reports that on steel rolling mills this plastic is giving seven times longer service than did the metal formerly used, and it isn't worn out yet.

He states that the metal had to be replaced in three months whereas the laminated plastic material after 21 months is still giving satisfactory service. In addition, it is said that the plastic material has a lower coefficient of friction, thereby reducing power costs by nearly 25 per cent. All in all, therefore, with reduced time loss for replacement of bearings and power economy the money saving amounts to a sum that is well worth while.

### Why Boiler Tubes Buckle

Users of steam boilers have observed from time to time that water tube boilers buckle "upwards" — if there is any buckling at all — while tubes in fire tube boilers buckle "downwards." Why is this, is a question that is frequently asked.

There are several reasons. The scale in water tube boilers, if there is any scale, usually lodges on the bottom of the tubes forming an insulation between the water and the source of heat. Consequently the lower side of the tube is overheated. The tubes that are higher up in the tube bank are not so hot, consequently they hold the boiler heads together, and as a result the overheated tube is in compression. The compressive forces *C*, indicated in the sketch, naturally cause the tubes to buckle upward because the lower side is the weaker side being so much hotter than the top side. The heat, also, comes from below, thus making the lower side still hotter.



In fire tube boilers the situation is reversed; the top side is the hotter because the tendency of heat is to move upward, and the scale forms on the outside on top of the tubes.

Soot and ash, also, in both instances, lodge in such positions as to be further helpful in causing the tubes to buckle as they do.

## Effect of New Steel Basing

Between the new Geneva basing price and a lower freight rate, steel prices on the West Coast now have dropped \$8.20 per ton from the prewar level, making West-based prices on structural steel shapes and steel plates the same as at eastern mills.

Ken Norris, the Western States Council's steel committee chairman, predicts that immediate effect will be "a wide expansion of markets for Western fabricated steel products such as pipe and tanks, and will enable our structural steel builders to expand their activity all over the West, besides bringing further expansion of branch plant operations here by eastern firms."

Still wider will be the benefits when the new continuous cold reduction mill at Pittsburg, California, and the 60-inch continuous mill at Los Angeles, go into operation, passing along these lower semi-finished material costs to other forms of steel used by nearly all industries.

### Assembly Plant Dedicated

Recognition of the West's top place as a motoring area continues to become evident. Lincoln - Mercury's Los Angeles plant, just formally dedicated, shows the most advanced planning, with 5½ miles of overhead conveyor lines in a building that is completely air-conditioned. The entire Western requirements of master hydraulic brake cylinders for Ford, Lincoln, and Mercury cars will be produced in Los Angeles when Bendix Aircraft opens its new assembly lines next September. A recent tally showed that another adjunct of motoring—the house trailer industry—has grown here to the point where California now ranks second in the United States, accounting for more than 30 per cent of the national output.

### Nash Progress

Nash-Kelvinator is moving rapidly with readying of its El Segundo plant for production this fall. All pits are dug, conveyor lines almost completed, and paint spray ovens and other equipment are being installed as fast as delivered. Unlike most auto makers, who ship bodies already assembled and primed for painting, Nash will bring body stampings here "in the bright metal" and do virtually the whole assembly job here.

### Cement Expansion

American Potash and Chemical has substantially enlarged its Trona plant's production of soda ash and borax, and Riverside Cement has doubled capacity of its Oro Grande mill, adding 1,200,000 barrels annually. Within six months, more new machinery will boost production by a like amount, the two expansions raising southern California's output of the key building material by about 25 per cent.



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On the Boards in Mathews Engineering Departments today, systems of gravity and power conveyers and special conveying machinery are being developed to serve production and keep manual handling at a minimum.

Whatever your product might be, if it must be handled efficiently and economically, that is a job for Mathews Engineers. Keep in mind this complete, experienced organization, and the service it makes available to you.



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# NEW METHODS, MATERIALS, EQUIPMENT

## That Will Help to Cut Your Production Costs

### 760 Welding Gun Line With Standardized Parts

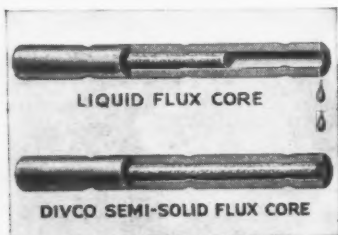
Seven basic gun types, in heavy duty and standard duty versions, will take care of 95 per cent of all gun welding requirements, as manufactured by Progressive Welder Company, Detroit, Mich.

This versatility of welding guns is made possible by the design and construction of component parts that can be used to convert a gun to a different job in a matter of moments, yet retaining maximum handling ease on the part of the operator.

With this standardization, it is possible to obtain as many as 57,600 practical variations with a single basic gun chassis.

### 761 Solder With Non-Liquid Flux

A heavy-cream-like flux that remains non-fluid and will not run out at normal temperatures is now being used in Divco Acid Core Solder, as announced by Division Lead Company, Chicago, Illinois.



The Divco Non-Liquid Flux does not leak out, leaving a flux void that wastes solder and consumes time. Messy spools and acid burns that often result from the leakage of liquid flux are avoided. Divco Semi-Solid Flux does not take on moisture from the air. When heat is applied, it flows freely, spreads and penetrates quickly, producing effective fluxing action.

### 762 Draft Gauge Adds New Circular Level

A circular spirit level has been added to the Dwyer Manufacturing Company, Chicago, draft gauges, making the gauge a two-in-one instrument. It enables service men to obtain accurate draft measurements

for setting draft controls as well as lining up the burners and control valves into level operation position.

Both direction and amount of leveling necessary can be found in one fast check. The level is precision made and  $\frac{5}{8}$  in. in diameter; it indicates 1 degree out of level with each 1/10-in. bubble movement. Its trade name is "Visi-Draft."

### 763 Stainless Steel Strip

Bright-annealed cold-rolled stainless steel strip is now available in the 18-1 analysis. By a new process pioneered by the Cold Metals Products Co., Youngstown, Ohio, originators of the precision cold-rolling process, chrome-nickel steels can now be furnished in a bright, mirror finish without expensive buffing or polishing. The bright finish is achieved by rolling with special tungsten carbide rolls and is retained during the annealed operation by a new technique.

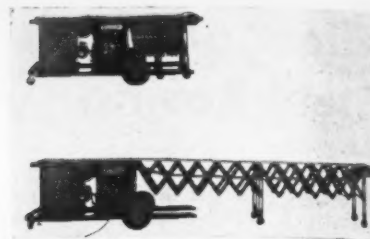
### 764 Embossed Corrugated Aluminum

A new and different type of corrugated aluminum sheet for roofing, siding and similar structural uses has been developed by the Reynolds Metals Company, Louisville, Ky. In addition to the standard lengthwise corrugation, this new development features an embossed finish, which increases the rigidity of the sheet, minimizes glare and provides a pleasing uniform appearance.

### 765 Portable, All-Purpose, Flexible Power Saw

A portable, all-purpose bench saw that can be taken right to the job is now available for delivery from stock by the Foster Manufacturing Company, Buffalo, N. Y.

With six points of adjustment, it can be used as a saw as well as being suited to performing other work: planing, routing, dadoing, shaping, tongue and groove, grinding, disc and drum sanding. It can also be used for many jobs on metal, plastic, tile and various other materials. This flexible power saw can be turned, tilted, raised, lowered and can be moved along the sliding arm for cutting action or location.



### 766 Belt Conveyor Is Portable

The Extend-O-Veyor, manufactured by Standard Conveyor Company, North St. Paul 9, Minn., is a portable belt conveyor which can be moved to any part of a plant or warehouse. Its short, closed length permits its being moved through confined areas or aisles.

The unit can be extended or retracted to any distance between its maximum and minimum or closed length. It will convey sacks, cartons, cases or bags any horizontal distance up to 46 feet in either direction.

### 767 Bulldog Needle Valve

Built with a stainless steel stem, with longest practical taper possible, the Bulldog needle valve is as delicate as a micrometer. It has a micrometer thread machined on its stem, allowing the valve to be opened or closed in tenths of a thousandth—thus effecting absolute accuracy of control. The Carpenter Manufacturing Corporation, Cleveland 2, Ohio.

### 768 Nylon and Styron Insulator Bushings

Dielectric features of Nylon and Styron have been utilized in the manufacture of durable insulator bushings. The simplicity of assembly, low moisture absorption, and shape-retaining characteristics of these bushings and sleeves give electronic and radio industries a low cost item with many uses.

Available in lengths from  $\frac{1}{8}$  in. to 1-3/16 in. by 1/32nc. O.D. .187 in. - .188 in. I.D. .126 in. - .128 in., they are products of the American Molded Products Co., Chicago 22, Ill.

### 769 New Milling Mounting With Rail Type Bracket

A new "Rail Type" milling mounting has been developed by Rusnok Tool Works, Chicago, Ill.

This attachment with the rail-type bracket is operated on either side of the overarm or directly in front of overarm; it can be quickly and easily placed and rigidly locked in any position with a full 180-degree adjustment.

The brackets are available and custom fitted to milling machines with round



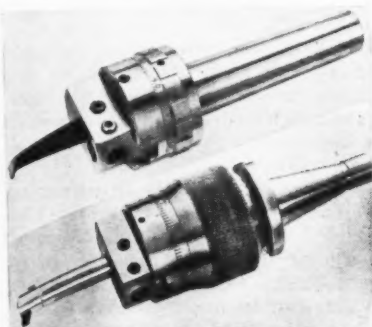
over-arm within the range of 3 in. to 5 in. in diameter. They are adaptable to any old or new Rusnok Milling attachment and provide a multiple quick change-over machine.

770

### New Line E-Z-Set Boring and Facing Tools

The Maxwell Company, Bedford, Ohio, has completed two new series of boring and power facing tools.

Both tools are smooth and circular in shape, providing maximum safety of operation and ease in handling.



The boring head shown on left features compactness, ease of adjustment and relative strength. Its unusual capacity is made possible by the three-position location feature in each head for the boring bar. The power facing tool on right has an unusual gear-arrangement for transmitting machine power to the facing tool at an exceptional ratio reduction.

771

### Fluorescent Plastic Is Self-Illuminating

Signs, nameplates, dials, pointers—that glow brilliantly under their own power—are some of the uses of a new fluorescent form of acrylic plastic just introduced by Rohm & Haas Company, Philadelphia, Pa.

The material is called Daylight Fluorescent Plexiglas as exposure to daylight or normal room illumination results in edge-lighted effects ordinarily obtained by directing light into the edge of acrylic material. It is shatter-resistant, light in weight, and is worked and machined like woods and soft metals.

772

### Lubricating Compound For Die Casting Machines

Die Slick No. 4 is a new lubricating compound developed principally by G. W. Smith & Sons, Inc., Dayton 3, Ohio, for lubricating the piston (ram or plunger) on cold-chamber die casting machines. It also may be used as a lubricant for ejector and guide pins on pressure die casting dies and on all movable parts of permanent molds—cores, pinions, slides, racks. It is applied with a brush or swab, but may be sprayed. It causes no "gumming" and will not become rancid.

773

### Drilling and Reaming Is One Operation

Drilling and reaming in one continuous stroke is now possible with the new Severance high speed drill-reamer, manufactured by Severance Tool Industries, Inc., Saginaw, Mich. It is offered in five standard sizes (3/16 in., 1/4 in., 3/8 in., 1/2 in., and 9/16 in. diameters).

The drill passes through materials of any thickness up to that of its diameter. The reamer section is designed with teeth of unusual shearing qualities which are so arranged as to preclude chatter and expel the fine "wool-like" chips into the main flutes of the tool.

774

### Improved Asbestos Clutch Facings

Clutch facings which feature a balanced combination of moulded and woven asbestos structures are manufactured by the Gatke Corporation, Chicago, Ill. The combination is achieved through the assembling of woven asbestos material with molding compounds before moulding to the required shape and size.

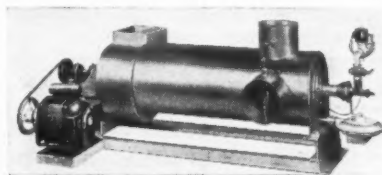
This structure maintains high frictional efficiency over a tremendous temperature range.

775

### New Industrial Heater Comes as Package Unit

The Midget Utility Air Heater is now available as a complete package unit, containing heater, fan, motor, drive, safety devices and temperature controller.

It may be used for heating drying rooms and small industrial ovens; its applications include baking lacquers and enamels on



metal ware, baking varnish on coils and armatures, curing rubber products, and the drying of paint, paper, soap pads, and statuary, as well as various uses in the food processing field. Gas Appliance Service, Inc., Chicago, Ill.

776

### Tray-Hart Drum Carrier Eliminates Pallets

Designed to eliminate the use of pallets and handling of drums by hand, the Tray-Hart Multiple Drum Carrier may be in-



stalled on any industrial gasoline or electric powered fork truck. After initial installation, the carrier can be removed and forks installed, or vice versa, in a matter of minutes. There is no installation problem.

A two-drum carrier is also available and is applicable to any 2,000-lb. fork truck.

Multiple cylinder carriers and bottle carriers come in 8-bottle, 9-bottle, and 12-bottle capacity — which handles a dozen cylinders of 350 lbs. each.

All sales are handled directly through the lift truck manufacturers and their dealers. Trayner-Reinhart, Oakland, Calif.

777

### Aluminum Double-Action Treatment

Alumatreet, manufactured by Farrelloy Company, Philadelphia, Pa., is a chemical formula which cleans aluminum and also creates an absorptive crystal coat. The resulting double action assures a tight paint lock free from blisters and peeling, thus increasing the life of the paint coating.

This product may be used for removing dirt and oxide and restoring aluminum casting or other alloys of aluminum.

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## Reading Guide for Western Management

A service for all management levels . . . current literature surveyed and appraised by the faculty of the School of Management, Golden Gate College

### Mainspring

By Henry Grady Weaver, Talbot Books, Detroit, 1947. \$1.00. (Based on the general theme of Rose Wilder Lane's book, "The Discovery of Freedom.")

"I realize that America is far from perfect, but in recent years the negative side has been so much overstressed that I make no apologies for concentrating on the doughnut instead of the hole." With this preface, the author proceeds to trace the path of history as a logical background for his leading question "Why Is America Great?" and his even more important question, "What is the *Mainspring* that must not be tampered with if America is to stay that way?"

Immediately he asks, "Why did men die of starvation for six thousand years? . . . Hunger has always been normal. Even to this day famines kill multitudes. . . . [Yet] why is it that we in America have never had a famine?"

Mr. Weaver seeks the reason for the demonstrated American advantage in the creation and production of tangible things by determining whether or not Americans have better natural resources, work harder, are inherently superior, or have more energy. One by one he discards these.

The real reason, says the author, is that Americans have made more effective use of their human energies than any other peoples on the face of the earth — anywhere or at any time. He argues that the *mainspring* is to be found in the *conditions* that provide opportunities and incentives to invent, to produce, to exchange, and to use. Here in America such opportunities and incentives have been more far-reaching and more favorable than anywhere else in the world.

"And it all comes back to the matter of individual freedom. We've been free to invent, free to try out new ideas and new methods, free to back up the other fellow's business or go in business on one's own — free to take a chance on making a profit — or going broke. We've been free to trade with each other over wide areas — free to buy what we please and from whom we please — from Maine to California and from Key West to Seattle."

The author makes a strong plea for a really free free-enterprise system, although he is careful to point out that the term "free enterprise" is in disrepute due to "pressure group connotation." Nevertheless, he is forced to come up with it when he makes a major point that "The only sound program for free competitive enterprise — and the only program that has a chance to succeed — is the one which concerns itself first, last, and always with

maintaining freedom for the individual citizen — and letting the chips fall where they may."

If you will accept the author's premises, it is probable that you will be fascinated by the techniques he uses to clinch his arguments. Included in these is the development of an interesting and effective argument against collectivism. You will be challenged by such provocative passages as: "the underlying cause of war is not the enemy" . . . "few adults have ever discovered that they are really free" . . . "insecurity is the price of freedom. . . ." It is also possible that you will be more appreciative of the contributions to our present culture that were made by the Israelites and the Moslems. The dynamic treatment given to the goings-on of the early American colonists and later American revolutionaries will give you a point-of-view definitely different from the traditional approach.

For a book that takes a firm stand on a major issue and staunchly defends it in a very readable manner, this is recommended.

Reviewed by:

C. LLOYD THORPE

*Manufacturing and Human Relations*

### Annual Reports to Stockholders

By N. Loyall McLaren, Ronald Press, New York City, 1947. \$5.00.

In reviewing a book of this character, one would ordinarily expect to find it written in the usual "facts and figures style" which is so widespread in accounting literature. Here we are presented with a very readable book. It is also timely in the sense that effective answers to attacks on the free enterprise system can be found in good corporate reporting which the book is endeavoring to promote. This volume is of interest to investors, accountants, students and corporate officials who have the responsibility of publishing the annual report of their organization.

Sixty-four representative corporate reports were chosen as subject matter and compared with generally accepted accounting standards. In addition to giving a critical analysis of modern corporate report practice, the author includes a clear presentation of related accounting principles. Treatment of this latter phase is noteworthy because it is set forth in a clear, concise manner which a layman can understand. Frequent use of human interest stories does much to enhance its readability and to assist in driving home points needing emphasis.

The author presents an account of the growth in financial reporting since 1908. It is interesting to observe that as the in-

vesting public grew in numbers, the need for more reliable information also increased. Yet, in spite of this need, corporate reports were not forthcoming in many cases until governmental agencies such as the SEC and major stock exchanges put pressure to bear.

The result has been most gratifying so far as the number of companies issuing annual reports is concerned. In fact, the more progressive firms want their statement distributed as widely as possible; since this is looked upon as a form of institutional advertising. In spite of the fact that a large proportion of publicly owned companies "have seen the light" about publishing an annual report, there is yet much to be done by way of improving the quality of corporate statements. Too frequently the type of information given out is that which is expedient for a corporation to issue, rather than what the investor ought to know.

Outstanding among the chapters is the one on Wasting Assets. It could well be regarded as a significant contribution to accounting literature. The author points out that companies in the extractive industry group are lax in giving information on known deposits of ore and oil yet to be recovered. It is quite obvious these data have a direct bearing upon the value of a related investment; however, in most cases nothing is revealed, or at best, the information is only vaguely referred to in corporate reports.

In the final chapter a conclusion is reached to the effect that current reporting standards are lower than they should be. Much improvement would be gained through the correction of five deficiencies. Briefly they are: 1. Lack of standard definition for a good portion of accounting terms. 2. Disregard of accepting accounting principles in presenting financial statements. 3. The unwillingness of a number of large firms to supply adequate information about reserves. 4. Failure of accountants to agree on standards governing items displayed in the statement of income. 5. The non-existence of accepted standards regulating the make-up of comparative reports.

This book might well be in every company library, because it deals with a phase of corporate policy which has escaped the attention of too many writers.

Reviewed by:

WESLEY T. BENSON

*Accounting*

### Briefer Guides From The Management Library

#### A Guide to Successful Conference Leadership

An article in *Personnel*, March, 1948. This article is a digest of a manual used for a course in conference leadership, as presented to supervisors of Standard Oil Company of New Jersey at the ESSO Training Center.

Reviewed by:

BERNA M. CARLSON

*Management Librarian*

# HELPFUL LITERATURE

For the plant operator  
who wants to keep informed

2373

**U. P. Puts Out Second Edition**—"If It's Worth Shipping, It's Worth Packing Right!" is the title of the folder distributed last year by *Union Pacific Railroad, Omaha*. Its popularity has resulted in a second edition which has been expanded into a booklet. Subjects covered include: Corrugated and solid fibre shipping containers, the sealing of fibre shipping containers, crates, nails and nailing, nailed wood boxes, plywood shipping cases, wirebound boxes, wirebound crates, steel strap, and marking.

2374

**Folder Describes Instruction Books**—*The Air Reduction Sales Company, New York, N.Y.*, have published a descriptive folder describing their five welding and cutting instruction books. Two volumes are devoted to arc welding, and two to oxyacetylene welding and cutting. The fifth book is "Manual of Design For Arc Welded Steel Structures," a 300-page definitive work.

2375

**Housewares Directory**—The 14th edition of the 1948 National Housewares Directory, said to be the largest annual trade directory published in the West, contains 500 pages, 275

national advertisers, and 5,000 manufacturers in the housewares and appliance fields. Founded as a trade service in 1931 by the Associated Pot and Kettle Clubs of America, the book contains three directories: products, manufacturers with their representatives, and trade names. The *National Housewares Directory* is available at \$6.00 a copy from headquarters at 1355 Market Street, San Francisco 3.

2376

**Analysis of Rubber Situation**—Mr. John L. Collyer, president of B. F. Goodrich, has prepared the eleventh booklet in a series of rubber studies, which is now available. It is entitled "Program for Preparedness in Rubber," and is an analysis of the national and world rubber situation. *The B. F. Goodrich Co., Akron, Ohio*.

2377

**National Standards**—An up-to-date list of all national standards approved by the American Standards Association has just been published and is now available free of charge. The American Standards listed have been developed through the procedure of the American Standards Association by the national groups in each of the fields covered, ranging from civil engineering and construction, mechanical engineer-

ing, electrical engineering, to chemicals and textiles. The list includes national standards for dimensions of machine tools and parts, rating and testing of electrical equipment, dimensions and identification of pipes and piping, building code requirements, industrial safety and health, occupational clothing, photography, and definitions, abbreviations and symbols used in technical literature. Copies of the list can be obtained from the *American Standards Association, 70 East 45th Street, New York 17, N.Y.*

2378

**Wage Directory**—What thousands of workers are earning today under terms of more than 700 union-management agreements can be a known quantity this spring in collective bargaining over third-round wage increases. *The Bureau of National Affairs, Washington, D.C.*, publishers of labor information services, have just issued a 650-page encyclopedia of wage rates and schedules in such contracts. To simplify its use in negotiations, the volume incorporates finding aids which ease location of comparable job rates in a particular industry, in a particular section of the country, in a certain size of city, or negotiated by a specific union.

2379

**Slush Pump**—Ideal Type C-100 duplex power slush pumps, designed to discharge 380 to 190 gallons per minute at pressures of 520 to 820 psi., are described and illustrated in Bulletin 323 of the *National Supply Company, Toledo, Ohio*. The brochure contains descriptions and illustrations of all main members of the power end and fluid end, including fluid valves and seats, liners, pistons and rods; lubrication, including a feature preventing mud contamination of crankcase oil; specifications, performance chart, and drawings with principal dimensions.

(Continued on page 96)



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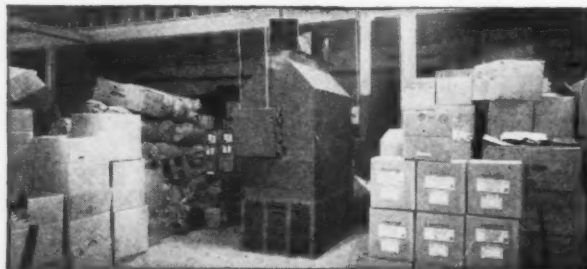




It's an *automatic* fireman who goes on the job at the flip of a switch for the Sanatex Company of Chicago. It cuts operational and maintenance expense to the bone and solves what had appeared to be an expensive heating problem for this processor of wiping cloths.

Not only is an attendant unnecessary—boiler-room and ductwork expense was eliminated, too, by installation of a Dravo *Counterflo* Heater. Centered along the east wall, the Dravo *Counterflo* Heater is entirely self-contained—requiring only power and fuel lines and a small vent stack. Its 1,000,000 BTU output is directed slightly over the heads of the workers to blanket 10,000 square feet of unbroken plant area with draft-free warm air. Cold corners and excessive roof heat loss are eliminated. During summer months, a touch of the selector switch converts the Dravo *Counterflo* Heater immediately into a powerful air-circulating unit.

Dravo *Counterflo* Heaters are available in sizes ranging from 400,000 to 2,000,000 BTU output. Equally efficient with oil or gas and with or without ductwork, they can be floor-installed, wall-hung or roof-hung. Write for Bulletin HZ-516. Heating Section, Dravo Corporation, Dravo Building, Pittsburgh 22, Pennsylvania.



According to Mr. Schulman, President of Sanatex Company, the Dravo *Counterflo* Heater "is the best equipment we ever had. Delivery of heat is virtually instantaneous when the unit goes into action—an important fuel-saving feature which eliminates the need for anticipating cold spells or keeping the heater in operation when the plant is closed."

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(Continued from page 95)

2380

**Pulp and Paper Industry**—The wide range of equipment made available to the pulp and paper industry by *Allis-Chalmers Manufacturing Company*, Milwaukee, Wisconsin, is described in a new 32-page booklet. More than 100 classifications are listed in the index—from acidulator drives to Yankee dryers. Flow sheets and illustrations are used extensively.

2381

**Sheet Metal Work**—A booklet explaining the operation of the five basic tools used in sheet metal work is now available. Describing the Berkoy line of tools, the information is designed for the hobbyist and the professional metalworker who fabricates in light gauges. *Berkoy Products, Inc.*, Burbank, Calif.

2382

**Geared Motors**—The use of geared motor power in driving machinery and the presentation of latest electrical motor models are shown in a multi-colored 16-page bulletin just issued by *U. S. Electrical Motors, Inc.*, Los Angeles, Calif. Comparative drawings showing common construction in contrast to the new design features of U. S. Syncro gear motors give the reader a new conception of motors for geared application.

2383

**Ejector Type Tools**—An application manual covering the 20 styles of Ejector Type Tools, sizes in which they are available and prices, has been prepared by *Super Tool Company*, Detroit, Mich. The manual describes both the horizontal and vertical types, illustrates the variety of cuts possible with standard and special design and includes grinding instructions.

2384

**Working Capital**—An industrial case history is presented in an unusual fashion by *C.I.T. Corporation* in their booklet entitled, "Working Capital for Industry." It is a success story based on cooperation. Its main character is the Monroe Auto Equipment Company of Monroe, Michigan. The various problems of this firm—and their solution—may be of help in current problems of other companies. The booklet is well illustrated in color; its message is brief and compact. *C.I.T. Corporation*, San Francisco, California.

2385

**How to Get Profits From Inventories** is the title of a new 24-page illustrated booklet published by the Systems Division of *Remington Rand, Inc.*, New York, N.Y. The material illustrates and describes the most modern methods of simplifying the management of stocks to prevent losses either from too much or too little. It shows why and how improved, modern inventory records reduce clerical costs and conserve executive time.

2386

**Alloy and Weldability Directory**—Condensation of a U. S. and Canadian engineering survey designed to show weldability of several thousand major and minor commercial alloys, as revealed by type of weld, equipment design, and practical application of special gas and arc welding rods, has been accomplished in an eight-page three-color technical directory made available by *Eutectic Welding Alloys Corporation*, New York City. Welds are classified by groupings of alloys and metals in widest use, with lowest heat ranges permissible in welding for exact service requirements. Illustrations include microphotographs and sectional sketches for product, repair, and design considerations.



## PACIFIC NORTHWEST REVIEW

(Continued from page 73)

Northwest Airline Cargo Association with headquarters at Seattle. Representatives of United Air Lines, West Coast Airlines, Western Airlines, Pan American World Air Ways, Northwest Airlines, and Trans-Canada Airlines comprise the membership in the association.

Development of air cargo transportation in the Pacific Northwest as an aid to industrial development is listed as one objective of the organization which is also expected to improve and coordinate air cargo services offered by certificated carriers, and to stimulate and develop an exchange of traffic between member carriers.

Before dropping the subject of transportation it may be of interest to report on the report of a committee of the Pacific Northwest Advisory Board. At the quarterly meeting of the board in Portland toward the end of March the transportation committee of the board reported that it was dropping the survey of palletized loads as not having material value to the activities of the board. Russell Boyle, traffic manager for Brown & Haley, Tacoma, and recently elected executive secretary of the board, reported for the committee.

"We are forced to come to the conclusion," the report read in part, "that palletized loading, as it affects car service and as it affects the activity of this board, can

only be used where it meets individual advantages. Many of our present distribution programs do not yet warrant use of pallets extensively. It was decided that the situation does not warrant the committee studying further the use of palletized loads. We do not intend to try to change the program of any one industry.

"We believe in the natural advantages of palletized loading and those natural advantages will progress the use of palletized loadings wherever it is possible. So far we have not been able to determine that it is an advantage in preventing the detention of cars, because even though a palletized load in a car can be unloaded quicker than the same load in the same car under the old method, car detention is tied to switching service and switching service is usually based upon a 24-hour period. Therefore, unloading a car in one to three hours instead of five hours does not affect the detention of a car in any one 24-hour period. It just stands empty that much longer waiting for the switch engine on its regular round."

## OVERTIME ON OVERTIME

(Continued from page 78)

charges approaching half a billion. For many of the stevedores that means bankruptcy.

The Goodwin bill now before Congress defines the term "regular rate" of pay by

way of amendment to the Fair Labor Standards Act, as the straight time rate of the contract. It is imperative to all industry that this bill pass, for two reasons. First, a Supreme Court decision adverse to industry would mean wholesale bankruptcy and considerable labor strife resulting from necessary contract changes to eliminate the threat in the future. Second, a Supreme Court decision favorable to industry would probably be very narrow, sticking closely to the facts in the New York case. It would most probably not settle the other cases about the country.

A further demonstration of the injustice worked by this ruling — the employers who have been most generous to their employees in negotiating agreements will be hit far harder than those who pay little and make few concessions for extra wages.

The former will be hurt because they agreed to a shorter work week with liberal provisions for contract overtime. Thus the average hourly wage which is the basis of any assessment against them will be at a higher figure and the 50 per cent extra they will have to pay out correspondingly more.

If the Supreme Court should overturn the Appeals Court decision it is felt on many sides that the wage and hour law is too vague as to the meaning of "regular rate" of pay.

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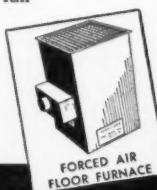
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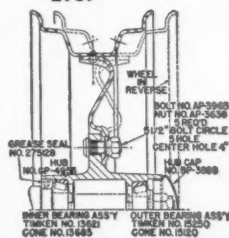
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## Continental Divide

(Continued from page 68)

tinned foods, industrial clamps, restaurant equipment, specialized machines, etc.

"More risk capital is needed in Colorado right now, to take advantage of opportunities for new enterprises. Many Coloradans complain that eastern financial interests are exploiting this section. They aren't. The easterners — or southerners or people from the West Coast — are merely performing functions that could have been performed by Colorado people — but weren't."

He pointed out that the area's principal attractions for new industry are an unusu-

ally intelligent and resourceful labor supply, an excellent climate, good transportation and communications plus unusually satisfactory living conditions.

### Big Dough in Sports

Sportsmen who walk into Abercrombie & Fitch in New York City can buy quite an array of equipment for fishing and other outdoor diversions, and a lot of the stuff sold there is manufactured in Denver.

Carrying on the tradition established by Goodwin-Granger for fine Denver-built fishing rods is the Phillipson Rod &

Tackle Company, which has come up fast during its two-year history and now sells fine split bamboo, fly and casting rods all over America.

For years Denver has been the nation's foremost center of the fly-tying industry, with such national leaders as the Wright & McGill company, Aeroplane Spinner Manufacturing Co., Haywood Mfg. Co. (which is an assembling outlet for the I. B. Humphreys Manufacturing Co.), the Perfection Tip Company which operates three Denver plants, and the Sure Strike Company which is the firm founded a few years ago by Jo-Ann Durand, a high school girl whose unusual enterprise brought her a flood of national publicity. Miss Durand recently sold the trout fly business to the Sure Strike people, who took over most of Jo-Ann's employees.

Several other Denver concerns manufacture fishing equipment. There is almost as long a list of firms making equipment for skiers, plus a rapidly expanding photographic supplies contingent. Maybe Uncle Sam's Mr. Brokaw is right — Denver may have grown up industrially without anybody having noticed the change.

### Mines Ailing Again

Turkey used to be known as "the sick man of Europe," and the "sick man" of American industry perennially is metal mining. Now the Western block in the Congress is getting up a bill to subsidize mines by stockpiling metals for use in an emergency. This is considered absolutely vital to the smaller mining companies, who are the ones always talked about in these subsidy proposals.

Who would get the gravy from a stockpiling program isn't easy to say. The advocates of the measure point out that three companies now produce 83 per cent of the copper mined in the United States, whereas they produced only 50 per cent of it in 1929.

"This shows that the same concentration of economic power is proceeding in mining as in the industrial world," according to Senator Joseph C. O'Mahoney of Wyoming, sponsor of the stockpiling measure. "We must keep our marginal mines functioning for the sake of the national welfare."

When this was written, the politicians were not decided as to the best sort of a stockpiling bill. It might provide a depletion allowance permitting mine owners to set up a reserve, or an actual mine subsidy program, or features of both proposals. Practically all phases of metal mining, underground and on the surface, would be affected.

### New Bakery

National Biscuit Company have purchased a 25-acre site in Portland from the Union Pacific Railroad for a \$6,000,000 bakery, the largest in the company's chain, with seven gas-heated ovens. The plant will contain 350,000 sq. ft. of floor space.

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## Tehachapi to Tijuana

(Continued from page 60)

Boom there may or may not be—but the new program should do the much-needed job which the Air Policy Commission set out to accomplish. It will (1) lay the groundwork for U. S. strength in the air, (2) give the industry a definite idea of how to plan for the next several years, and (3) save perhaps the full 20 per cent the Air Policy Commission believed could be saved in cost to taxpayers through efficient production scheduling and management of manpower.

Whatever the size of the job ahead, Western manufacturers have laid plans to avoid one costly bottleneck of the past. In buying materials, the major companies have agreed to eliminate many differences in tempers, finishes, and sizes, and to specify those set forth in a standardized Warehouse Stock List. In return, suppliers have agreed to keep a constant supply of these materials at hand.

Result is that where as many as eight types of steel tube with the same diameter and wall thickness were stocked because of variations in alloy, heat treatment, and finish, the number can be cut to two or even one type. The project was undertaken by the Aircraft Industries Association at the suggestion of Northrop, with Glen M. Aron of Northrop's standards department as chairman. So far, the four major aircraft materials—alloy steel, stainless steel, aluminum, and magnesium—have been standardized. Copper and brass are next.

Benefits already have shown up: The inventory of steel tubing suppliers reveals that they were carrying some 2,200 items on the shelf, some of which have been stocked several years without a single sale. The new list cuts this inventory to 217 items. Some eastern buyers whose factories are closer to raw material mills than Westerners are beginning to place orders through West Coast warehouses because they can get immediate delivery.

Much of the confusion of the past war will be eliminated because of the careful scheduling of plants through the National Munitions Board. One big reason West Coast cities became "critical labor shortage areas" was that the various armed services operated independently — indeed, competitively — in placing contracts.

Work thus was pyramided sky-high in areas whose location was strategic. The resulting chaos was dispelled finally by the local "production urgency committees" which became clearing houses where such duplication came to light and was eliminated. In blueprinting industrial mobilization, the services no longer are competing for plant facilities. Result should be a sensible and efficient scheduling.

A flood of inquiries will now be contractors has been reaching headquarters of

Col. W. S. Broberg, chief of the newly established Los Angeles Ordnance District, although the story is the same as with aircraft — no new contracts until appropriations have passed Congress. Since last summer, however, when the District was set up, there has been a steady increase in the amount of ordnance contracts here, mostly for research and development, including the vital rocket program. Ordnance districts probably enjoy the greatest autonomy of any service in handling relations with contractors in the field and the inevitable government red tape is at a minimum.

The Los Angeles district has established an up-to-date gauge laboratory at the local

University of California campus. Operated by the University's engineering department, it is one of the best equipped on the Pacific Coast and will be available to aid manufacturers in case of war.

If "Oscars" were given for outstanding achievement on behalf of the West's manufacturing industries, a couple of cases of them would be in order for award to the hard-working members of the Western States Council's steel committee, and to the Los Angeles Chamber of Commerce. The recent \$3-a-ton reduction in the price of steel produced at Geneva, as agreed by U. S. Steel in taking over the government's giant Utah mill, was enough to cause dancing in the streets.

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# Public Contract Awards in West

**S**UPPLIES and materials furnished to the federal government under the Walsh-Healey Public Contracts Act for the first three months of 1948 by firms in seven of the Western states totaled \$106,469,219, an average of \$35,489,740 a month, it is reported by John R. Dille, regional director of the Wage and Hour Public Contracts Divisions of the U. S. Department of Labor. This was nearly 20 per cent of the national total.

California accounted for \$92,816,882 for the quarter, nearly 90 per cent of the Western total. Following were Washington, \$7,430,998; Oregon, \$3,577,537; Utah, \$1,426,790; Idaho, \$981,644; Arizona, \$212,154; Montana, \$23,214. Nevada, eighth state in Mr. Dille's region, was awarded no contracts.

A breakdown by classifications of products is as follows:

Coal and petroleum products: total, \$45,779,341; California, \$45,635,190; Washington, \$68,377; Idaho, \$65,324; and Utah, \$10,450.

Food and kindred products: total, \$20,277,321; California, \$16,253,853; Washington, \$1,575,686; Utah, \$1,390,574; Oregon, \$970,772; Idaho, \$73,750; and Montana, \$12,686.

Machinery other than electrical: total, \$6,628,107; California, \$6,559,339; Washington, \$50,092; and Oregon, \$18,676.

Transportation equipment: total, \$5,492,400; California, \$5,428,338; Washington, \$52,798; and Oregon, \$11,264.

Metals and basic metal products: total, \$5,449,484; California, \$2,733,389; Washington, \$2,436,769; Oregon, \$260,072; and Arizona, \$19,254.

Wood products and furniture: total, \$3,920,886; Oregon, \$2,059,413; Washington, \$1,273,353; California, \$575,686; and Utah, \$12,434.

Chemicals and related products: California, \$2,982,216.

Electrical machinery and apparatus: total, \$2,143,024; California, \$1,995,459; Oregon, \$127,250; Washington, \$20,315; total, \$2,143,024.

Stone, clay and glass products: total, \$1,267,902; California, \$1,217,294; and Oregon, \$50,608.

Tobacco products: California, \$970,599.

Fabricated metal products: Total, \$342,631; California, \$319,868; and Washington, \$22,763.

Paper and allied products: total, \$132,380; California, \$81,023; Oregon, \$26,954; Utah, \$13,332; and Washington, \$11,071.

Textiles and apparel: total, \$116,402; California, \$73,922; and Oregon, \$42,480.

Rubber products: California, \$89,214.

Printing and published products: California, \$15,146.

Miscellaneous: California, \$7,886,346; Washington, \$1,919,774; Idaho, \$842,570; Arizona, \$192,900; Montana, \$10,528; and Oregon, \$10,048.

## More Gypsum

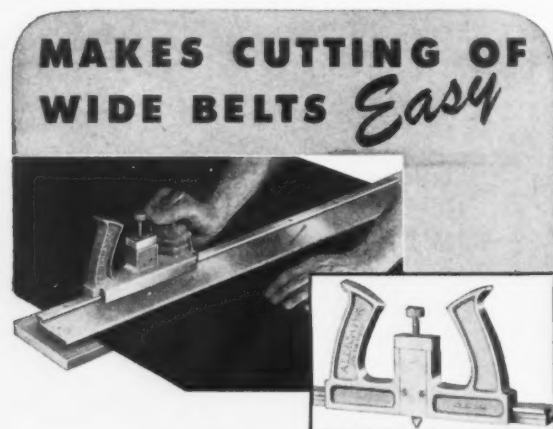
Monthly output of 2,000,000 square feet of wall board, 375 tons of plaster and 4,000 tons of agricultural gypsum per month are planned by Columbia Gypsum Products, Inc., from a plant to be built at Spokane, Wash. Raw material source is a deposit of 40,000,000 tons of high grade gypsum near Lake Windermere, British Columbia. Mining of the property at the rate of 700 tons per day is expected to be underway by June 15.

## Nitrate Plant Plan

Hercules Powder Co. will install an ammonium nitrate manufacturing plant on their property near Bacchus, Utah, 14 miles southwest of Salt Lake City. Capacity will be 1,000 tons a month, and the finished product will be partly used in the manufacture of dynamite in Hercules' dynamite plant at Bacchus, while the rest will be available for fertilizer. Equipment was recently purchased by Hercules from a war surplus ordnance plant at Memphis, Tennessee.

## Associations Elect

Percy Solotoy, pres., Brown-Saltman of California, re-elected pres. of Los Angeles Furniture Manufacturers Ass'n. A. T. Mitchell, v.p., Pacific Bedding Co., elected v.p., and Joseph Siskin of Angelus Furniture Manufacturing Co., re-elected treas. . . . Edward S. Feldman employed on Ass'n staff.



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## There Won't Be Any Static

It is evident that static electricity in belts is not yet fully understood, even by some men who write directions about static for others to follow. Here is an example:

"In very hazardous locations, it is also well to have the belt itself prepared so that it will be a good conductor of electricity, to make sure that all charges will make their way at once to the ground."

Such a precaution is a good one regardless of the kind of belt. But it is also a fact that when a belt in itself is a good conductor of electricity, there will be no static to carry to the ground from the belt. Such belts don't generate static.

Take, for example, rapidly revolving metal discs. Such discs never create static because they are first class conductors of electricity. A belt made of steel or copper or any other ordinary metal will therefore never generate any static. This makes it plain that if you metallize a belt by stitching copper wires in it from end to end and from side to side, it need not be grounded. Or a belt that is treated in any way that will make it a conductor will not generate static, hence need not be grounded except for precautionary reasons.



## Silicones Save Cylinder Heads from Corrosion

Cylinders of new Harley-Davidson '2-Cycle' motorcycle protected from rust by modified silicone coating formulated by Midland Industrial Finishes Co.



PHOTO COURTESY HARLEY-DAVIDSON MOTOR CO.

Rusting of metals exposed to high temperatures and moisture was once as certain as taxes. That was before silicones were introduced by Dow Corning Corporation. In all of their various forms, these organo-silicon oxide polymers are indifferent to extreme heat or cold—and they repel water.

That's why the Harley-Davidson Motor Company of Milwaukee, Wisconsin, tested and then finally specified a modified silicone coating formulated of Dow Corning Silicone Resins for the cylinders of their new Model 125 motorcycles. Preliminary tests showed that the Modified Silicone Aluminum Coating made by Midland Industrial Finishes Company of Waukegan, Illinois, maintained its film continuity even after being exposed to 1000°F. and plunged into water, 70°F. Immersion in water for 24 hours resulted in no appreciable softening, blistering, rusting or discoloration of the coating.

The coating was then applied to the cylinders and exhaust pipes of a 1948 Big Twin motorcycle, and the motorcycle was driven 1,893 miles. The cylinders retained their original new appearance with the exception of slight oil burns. The coating was tough and resistant to scratching. It did not soften when cleaned with gasoline or naphtha.

This is only one of the many applications in which DC Silicone Resins help to prevent rusting of hot metal surfaces. These silicone resins are described in Data Sheet No. X 8-2.

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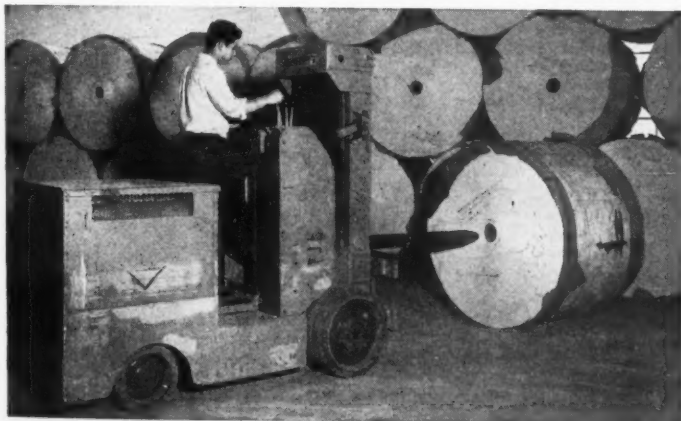
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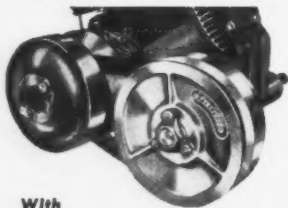
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# INDEX TO ADVERTISERS THIS ISSUE

A		L	
Alan Wood Steel Company.....	21	La Haye Mfg. Co., Division,	
Alvey Conveyor Mfg. Co.....	89	Aluminum Products Company.....	102
American Felt Company.....	18	Lamson Corporation.....	76
Anaconda Copper Mining Co. & Subs's.....	15	Link Belt Company, The.....	10
Anaconda Wire & Cable Company.....	15	Lubriplate Division,	
		Fiske Bros. Refining Co.....	56
		Lyon Metal Products, Inc.....	20
B		M	
Bay State Abrasive Prod. Co.....	11	Maas, A. R., Chemical Co.....	84
Bethlehem Pacific Coast Steel Corp.....	63	Maltby, Edward D., Company.....	86
Propar Distributors.....	101	Mathews Conveyor Company West Coast.....	91
		Morck Brush Division,	
		Pittsburgh Plate Glass Co.....	78
C		N	
California Barrel Co., Ltd.....	3rd Cover	National Supply Co., The,	
Central States Mfg. Co., Inc.....	97	Machinery & Spang-Chalfant Div.....	9
Chain Belt Co. (Rex).....	77		
Chase Brass & Copper, Subsidiary of		O	
Kennecott Copper Corp.....	6	Oakite Products, Inc.....	86
Clark Tractor Division,			
Clark Equipment Co.....	55	P	
Cleveland Tramrail Division,		Pacific Pumping Company.....	99
Cleveland Crane & Engr. Co., The.....	12	Pacific Telephone & Telegraph Co.....	83
Cleveland Worm & Gear Co.....	80	Perin, Ira G., Company.....	101
Colson Equipment & Supply Co.....	23	Pioneer Rubber Mills.....	68
D		Q	
Danly Machine Specialties, Inc.....	79	Quantity Photos, Inc.....	101
Delta Mfg. Division,		Quinton Engineers, Ltd.....	101
Rockwell Mfg. Corp.....	7		
Dickson Safety Products Co.....	98	R	
Disser, Milton E., & Assoc.....	102	Rapids-Standard Co., Inc., The.....	73
Dow Corning Corporation.....	101	Ready Power Company.....	84
Drake Steel Supply Co.....	13	Revere Copper & Brass, Inc.....	51
Dravo Corporation, Heating Section.....	96	Ridge Tool Company.....	14
		Russell, Burdsall & Ward Bolt & Nut Co.....	53
E		Ryerson, Joseph T., & Son, Inc.....	34
Electrolift, Inc.....	95		
F		S	
Flexible Steel Lacing Co.....	100	Salsbury Corporation.....	102
Forbes Bros. Company.....	87	Sansco Machinery Co.....	88
French & Hecht Division,		Service Caster & Truck Corp.....	85
Kelsey-Hayes Wheel Co.....	97	Shell Oil Company, Inc.....	16
Fruehauf Trailer Co. of Calif.....	59	Signode Steel Strapping Co.....	26
		Smoot-Holman Company.....	64
		Standard Conveyor Company.....	60
		Standard Oil Co. of California.....	30
		Standard Safety Equipment Co.....	98
		Stanley Works, The.....	28
		Stephens-Adamson Mfg. Co.....	4th Cover
		Strom Steel Ball Company.....	76
		Stuart Oxygen Company.....	72
		Swett-Stone Corporation.....	86
G		T	
Galland-Henning Mfg. Co.....	90	Taylor Fibre Company.....	85
General Chemical Division,			
Allied Chemical & Dye Corp.....	71	U	
General Electric Co.,		Uarco, Incorporated.....	69
Apparatus Division.....	4	Union Oil Company of California.....	61
General Paint Corporation.....	82	Union Pacific Railroad.....	22
General Tire & Rubber Co.....	52	United States Steel Corporation.....	24 & 75
Gould Storage Battery Corp.....	3	United States Steel Supply Co.....	24
Great Lakes Steel Corp.,			
Stran-Steel Division.....	57	V	
Grinnell Company, Inc.....	65	Victor Equipment Company.....	2nd Cover
I		W	
Independent Iron Works.....	17	Wallace & Tiernan Co., Inc.....	95
		Wells Fargo Bank & Union Trust Co.....	87
J		Western Gear Works.....	67
Johns-Manville Corp.....	8	Wirebound Box Mfgs. Assn., Inc.....	32
Johnston. A. P., Company.....	102		
K			
King, Irving G., & Co.....	102		
Kirk, Morris P., & Son, Inc.,			
Subsidiary National Lead Co.....	81		

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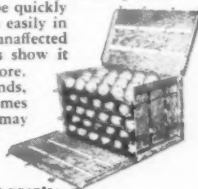
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